CREATIVE PERSONALITY

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CREATIVE PERSONALITY

A STUDY IN PHILOSOPHICAL RECONCILIATION

BY

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8550

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DEDICATION

To SEELEY WINTERSMITH MUDD

Whose exemplification of Christian principles in business and whose interest in education have lighted an unfading lamp for the feet of youth.

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PREFACE

A recent writer declares that "Personality was never distinctly conceived of by antiquity. And yet by personality men have been secretly governed all the time."[1] Another quotes the words of Augustine: "Men go to admire the peaks of mountains, and the vast floods of the sea, and the broad gliding of the rivers, and the sweep of the ocean, and the orbits of the stars, *and they neglect themselves.*"[2] While the present age can scarcely be charged with the repetition of the ancient short-sightedness there is danger in an age so predominatingly scientific of a separation of science from human values. On occasion this has amounted to a denial of human values as possessing reality. The defenders of human values rightly realize that if these finer things go, with them go the choicer fruits of civilization and all that is worth living for. They feel themselves in the position of opposing an essential paganism, and it is not strange that they bring to their defense a burning conviction of righteousness. In the minds of men of science, on the other hand, is a conviction that truth is the great desideratum of human striving and that to be untrue to it is to lose all that is worth while. So the oppositions move against each other, each certain of its own rectitude and disinterestedness.

The tragedy of the situation is double. The first element of tragedy lies in the fact that the contest is precipitated by misunderstanding on both sides. This mis-

[1] Sc. Bevan, *Hellenism and Christianity* (Doran, New York), p. 141.

[2] Sihler, *From Augustus to Augustine* (Cambridge Press, Cambridge), p. 277.

understanding is due largely to extreme and unsupportable claims made by both parties to the conflict. For in the last analysis, if the religious claim for God as the Creator and sustainer of the universal order be true, scientific truth is simply God's way of working and is as much a part of God's truth as any other. As to science, if it holds to its empirical principles, it can take cognizance only of appearance in phenomena and cannot go back of these to make statements regarding what lies behind the physical order. It can rightly have nothing to say, as science, against the existence of God, or of purpose in creative evolution, or in the way of denying the reality of human values.

The second element of tragedy lies here, that the world is at present in direct need of the coöperation of scientific-minded with religious-minded men. Science daily places in the hands of society powers of destruction so great that all the gains of the past and even human existence itself must come to an end unless moral and spiritual gains shall equal the scientific. There is need then, it would seem, to take account of stock and to clear away the causes of misunderstanding. This is no day for arrogance either in science or in religion. We cannot with a wave of the hand discard our ideal world or moral hopes and aspirations as possessing no importance. It has been proved in every realm, both scientific and religious, that in order to get the best practical results we have to act "as if" certain things were true. These things reach into the Absolute, if we may be allowed to use that term for whatever is beyond human understanding. The mathematician must act "as if" space were infinitely divisible in order to reach approximate practical solutions; the mechanic must plan "as if" frictionless machinery were achievable; the physicist must act "as if" the atom were flying *beta* and *gamma* particles. It is only as theory and the ideal touch on the dogmatic

and reach beyond the borders of a mere empiricism that man can seize either upon the powers of the present world or upon those of a world to come. To consider the nature of reality, of thought, of value, and of life in the light of such considerations may not then be an unworthy task. The task is so overwhelmingly great that the author of this work can only present it in the hope of furnishing here and there a suggestion which may add to the volume of thought making toward a final solution. The need is so great that even a common man should be called to the service. If at times he seems to some to speak dogmatically he can but plead the excuse, that in life, when practical human values are at stake, it seems impossible to speak without deep conviction and a certain measure of dogmatism. We allow a certain assumption of superiority to the fireman when the house is burning down, even though we mistrust his judgment.

INTRODUCTION

It has been said that philosophy is identical with its history. This means that philosophy is not a body of particular facts to be classified and studied systematically like the facts which form the subject matter of the sciences. Philosophy is a dialogue continued across the ages, a dialogue which first took shape in the streets of Athens and has gone on ever since, intermittently and yet without interruption, as new phases of human life and human knowledge have brought to light new interests. It continues today, not in the streets of a city, nor in the classrooms of an academy, but everywhere throughout the world where men cultivate the spiritual life. It shows no finality and can reach no conclusion, for a final solution of the problems of philosophy would mean the death of thought.

All philosophies which are truly philosophy differ from one another in the emphasis they lay on particular aspects of the problem or on the importance they attach to some interpretative principle, and not in the outward form of systems. Reality may be a system; philosophy certainly is not. The great philosophers have taught us how to ask questions, not how to give answers, solve all problems, and pluck out the heart of all mystery.

The term Personalism is descriptive not of the doctrine, but of the principle of interpretation followed by the author of this book. It is a distinctive title which is intended to associate the author with a group of philosophers, some living and some who are dead, who have influenced a wide circle of followers. The principle itself is not new and does not even claim to be novel. It is a form of

idealism of the Leibniz and Berkeley type, an idealism which stresses the individuality of the real. Instead, however, of starting as Leibniz does with the metaphysical concept of the monad, or as Berkeley does with the psychological concept of spiritual substance, it takes as its primary unit the individual in its highest expression as an ethical and religious personality. As a metaphysical theory it is the conception of reality as a world of persons with a supreme person at the head. Personality is in effect the primary idea, and nature is a derivative idea. Nature is the expression of the world by persons and the means by which they intercommunicate.

The theory expounded in this volume may be said to owe its modern formulation to Lotze and his followers, and it takes its direction mainly from that source. It is, of course, closely allied to other speculative theories, and it owes something to the influence of Renouvier in France. The first general statement of the principles was put forward by George Holmes Howison, John Stuart Mill Professor at the University of California from 1884 until his death in 1916, in his book *The Conception of God* published in 1897. It was also expounded by the late Borden Parker Bowne, Professor of Philosophy in Boston University from 1876 until his death in 1910, in a series of philosophical works.

Personalism differs from most forms of idealism by the careful disclaimer of any argument based on the subjective nature of knowledge, and it differs from most forms of pluralism inasmuch as in affirming the reality of persons it does not imply the denial of impersonal reality in any form. It is as a method that it claims for its principle the highest philosophical value. Its principle is that the clue to the interpretation of reality is not to be sought for in the abstract concepts of the sciences, either the mathematical and physical sciences or the biological.

Neither the metaphysical concept of the atom, nor the concept of life or organization as a spiritual activity, will yield us a satisfactory foundation for theory. We must seek it in the highest and most complex expression of individuality, the moral and religious person. In a way it may be said to reverse the principle of Leibniz's *Monadology*, for instead of tracing the hierarchy upwards from the simple monad, through the higher degrees to the supreme monad, it starts with the free Spirits in the City of God and works from above downwards.

As a philosophical theory personalism is not primarily critical, it does not inquire what are the transcendental conditions of the possibility of experience, it takes personality as actuality and studies its implications. It stands, therefore, somewhat apart from all the philosophical schools, not by antagonism, but rather by cutting across the ordinary division lines and classification of theories. It is consistent with diverse forms of epistemological doctrine. Its main concern is with values and it concentrates attention on the ethical and religious values rather than on the metaphysical problem. Its standpoint is that which essentially characterizes the Christian view of life, the standpoint of the individual, not as one of many individual expressions of a species, but as peculiarly responsible by his personal character for all thought and action.

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March 1, 1926.

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SECTION ONE

PROBLEMS OF REALITY

Chapter I

Reality—Is it Lumpishness, Force, or Intelligence?

Introduction—Various definitions of being—Matter, as "thing-in-itself," as material and immaterial substance—Idealistic definition as idea or concept, as activity, as law of change—What do we mean by essence, objectivity, lumpishness, movement, direction, or force? Is it primarily purpose or end?—The change wrought in our thought of being by the new physics—Being as it is in the universe and in human experience—Is it rational, cosmic, or accidental?—Being and becoming.

For sage and for peasant, for philosopher and for clown, there is alike a common test by which one's life is to be judged, and it is this: What to the individual experience appears to be fundamentally the most real? The riddle thus proposed by life in every thinking being is like the riddle of the sphinx; who cannot answer it in some worthy fashion is devoured. Whether one chooses to assume the fundamental reality of life to be eating and drinking, the pleasures of the senses, the accumulation of wealth, escape from toil and responsibility, the acquirement of fame or social position, advancement in the lore of the mind, or the achievement of righteousness, whatever we settle upon as the supreme reality to which we may devote ourselves, this becomes the unconscious judge and arbiter of our life.

As reality is sought in terms of value in living and the answer found determines the life, so it is that even in the realm of thought, the ranges of cosmic, scientific, and philosophic explanation, the case is not different. Any philosophy is to be tested by its definition of reality, or

being. That is the crossroad of all thoughtful endeavor, and how we read the signs there and the direction that we then take determines the whole future and even the outcome of our thinking. That such an assumption should seem sheer presupposition to the unwary is not to be wondered at. We live in a day of suspicion of all the ways of formal logic. The old times of unquestioning belief in necessary conclusions from accepted premises have passed away. We have come into a saner mood toward the compelling significance of dialectic. We grow impatient with the man who warns of unavoidable conclusions. Nevertheless, it is a fact that no superstructure of thought can be more profound than the basal idea from which it springs, just as it would be disclosed as folly to superimpose a structure of granite and iron upon a wooden base. Because men have failed to see this connection in the realm of cosmic explanation, they have spent the energies of a lifetime toiling at a superstructure of thought which could not stand the vicissitudes of time, criticism, and discovery.

Neither should the problem of reality be considered an easy one because of the advance in general enlightenment which is supposed to mark our own day. The custom of every age is to think too highly of its own intellectual attainment; at least that is the characteristic of every age which does not spend its chief energy in a slavish worship of the past. Science has given us new cause for reflection and, at first glance, many would presume that her added data would be conclusive; but it is not so. There does not begin to be the certainty about the nature of reality that there was fifty years ago, as there was less then than a century earlier. Despite the discoveries of science, we are in some respects less prepared to deal with the question than at certain outstanding periods of the past.

The scientific overemphasis of the place and surety of induction has largely removed from the world of scholar-

ship the reflective mood and mind. The mood seems just at present to be changing, but there are still some respects in which we seem less fitted to handle ideas than were our more reflective, less empirical, fathers. So far from being settled is the problem of reality that it seems from every standpoint, practical, scientific, and philosophical, more of an open question than ever. Under the light of such considerations as these, one needs to begin with humility to pray for deliverance from cocksureness, to be led by the hope that he shall contribute something to the general understanding, and to be kept from adding to the general confusion.

It will serve the purposes of a general survey, such as this, which does not have in view the exhaustive discussion of various definitions of reality, to summarize these theories under a few heads, even at the risk of being charged with superficiality.

The easiest and most obvious of all explanations of reality is the most common one, that of matter. To the man of the street, matter is just so much objectivity or lumpishness. It can be seen; it gets in the way; it has extension; it can be moved from place to place; it has varying degrees of interpenetrability; lumps of it can be put together to build larger masses. Whatever one might think of doubting, whether it be ideas, or the reality of one's own existence, it would seem to the materialist most ridiculous to doubt that the most material is the most real. Thus he is led by a series of quantitative combinations with the aid of a very immaterial imagination, of which he is quite unconscious, to build up out of lumpishness, with the aid of motion in space, a world of qualities ranging from the colors of the spectrum to the ideas which throng his brain, and the impulses which move his soul. This is a precarious result, for the slightest reflection on the nature of matter leaves him less satisfied. If he reflects

at all he is driven to mystery, for there seems an inherent incommensurability between the activities of matter and the qualities of mind. In his enthusiasm for matter he is led into denying mind altogether, except as a manifestation of matter, or he is compelled to write "realm of mystery" across the doorway of reflection, and declare the issue closed.

The classic confession of ignorance in the realm of philosophy is the materialistic characterization of reality as "thing-in-itself." One thus closes the case by begging the question. There are minds that rest in such a negation which show no dissatisfaction with a general denial, but they are few. The great generality of pronounced materialists, even though they deny any reality save that of matter, go on to act as if the contrary were true. They give thought no place in the general scheme of reality and yet they exalt it by thinking; they deny reality to the soul and yet it is the treasure which in their friends they most prize and seek. They are theoretical materialists and practical idealists, for man cannot in the conduct of his life be a rigorous materialist without reading himself out of human companionship and social endeavor. His theory needs only to be true to rob life both of its sweetness and its light. The supreme worth of human values is gone at a stroke. A fundamental definition has impoverished him, in the name of the practical, of everything that is of worth. He can find only a grim comfort in holding to a theory which in practice he dare not assume to be true. In addition to all this, the materialist is found importing into his notion of reality a theory of directing intelligence, usually under the terms "Nature," "Evolution," or "Function."

There is another type of thinker who like Spinoza endeavors to give plausibility to a doctrine of substance by endowing matter with the immaterial qualities. Such a theory offers plain advantages, in the exigencies of argu-

ment, for you both have it and have it not. From one standpoint matter is characterized by its immateriality, but the same arguments can be alleged against it that can be held against Personalism, with this difference, that the Spinozean is deprived of the appeal to experience which the Personalist has. The Spinozean impersonal essence of substance, wholly intangible, must ground tangibility. Without power of direction it must yet direct. The end is not only confusion regarding the definition of reality; it is confusion likewise regarding the reality of moral values, which is a fact of even greater practical importance to the well-being of man. In a somewhat analogous position is the Neo-realist who makes reality a matter of impersonal relation. He appears to discard both the subject and the object in an attempt to affirm the relation between them. Like the substance of Spinoza his reality fails to satisfy, because of its impersonal character. There is nothing in impersonal relation to ground this or any particular experience, to relate it to other experience both past and anticipated. We immediately find ourselves with unmanageable notions on our hands, that grow more embarrassing the further we pursue them. The reality of the subject of experience is necessary to any reality of relation. It will not do to win our unity at the cost of the denial of either the world of objectivity or the world of subjectivity. The Neo-realist, of course, will not see this, but then doubtless he should.

To the idealist a sufficient account of reality may be made upon the hypothesis that the idea or concept is the fundamentally real. Organization, intelligibility, are written all over the universe and may easily be viewed as the most important part of it. Especially to the man of cultured and creative mind does it appear that the concept or idea is the source of all creative activity. So important is intelligence in the working of all intelligible results that

to such a man it seems easy to say that objectivity of any kind exists first of all in creative intelligence.

This is an easy conclusion for the man of introspection and grows naturally out of the discoverable relation between his self-consciousness and his activity. No painter puts on canvas a picture which has not first had its place in mental conception. There is no product of human hands but is likewise the product of the human intelligence. The adaptations of nature are the facts most obvious to him. Seeing these, and reasoning by analogy from his own purposive creative effort, he assumes a supreme Intelligence or Absolute whose original concept grounds the whole world of objectivity. The conception is among the grandest in the history of thought, but it is won at a great price, for in assuming universal Intelligence it must charge to its account all the unintelligence apparent to the unprejudiced. It is forced to shut its eyes to the facts and to declare all that is hostile to its overbearing claims only illusion.

In the beginning of Goethe's masterpiece, Faust is represented as jaded with the quest for reality. Having explored every realm of mental endeavor, he turns in upon himself with the depressing consciousness of no solutions. Under this stress he picks up his New Testament and is led (was it again by the spirit of Spinoza?) to substitute for "word," "act," and to read the opening lines of the gospel of John: "In the beginning was the Act." Is Action the essence of reality or being? Is it true that *to be* is *to act*. That is a definition which has captured some of the keenest minds in modern philosophy. The bare statement is capable of great development and modification. It has within it wonderful possibilities for philosophic achievement. But it is doubtful if it can long be maintained in the abstract manner in which it is stated. What is the essence of activity? Is it merely motion in space?

To endow the definition with significance there must be introduced into it purpose. Activity must be toward an end, to give it any significance, and we cannot endow activity with a purpose without adding the further elements of intelligence, self-consciousness, and self-direction, that is to say, an agent. In fact, this is what the activist does either consciously or unconsciously.

A much more common definition of reality in the present day is that which describes it as a law of change. This view obtains wide credence by reason of the unusual respect which the scientific mind has for uniformity. Uniformity of appearance, or activity, is erected into independence. It comes to be considered not as the uniform act of an agent behind, but the uniformity is itself looked upon as the compelling agent. When then we look out upon a changing world, in which everything is in a state of flux and nothing remaining the same, it is easy to hit upon the "law of change" as the one thing that does not change. This conclusion of Heraclitus is revived and modernized for us in the work of the distinguished French philosopher, Henri Bergson. The *élan vital* is assumed as a law of change, the unchanging factor in change. But law is nothing more than uniformity in appearance, if we cannot go behind the Act to an Agent.

Here again uniformity of appearance is mistaken for efficient cause and the real problem is concealed. If reality *is* change, and nothing abides, how does the notion of change arise. Obviously it could not unless, as Bergson recognizes, there is duration somewhere. When we approach his study of the meaning of duration we discover that personality alone, as that which changes and yet which survives all change, has to be assumed as the abiding factor rather than any impersonal "law of change." Even the *élan vital* has to be in a measure personalized in order to give it an impressive place in creative evolution. Exactly

the same thing is done that we charge against the theological conception of God, our world-ground is anthropomorphized in order to make it meet the demands of human thought. The *élan vital* is thus treated when it is looked upon as the competent agent of creative evolution working toward a far-off and final end.

A remarkable revolution in the definition of matter in relation to reality is at the present moment taking place. Its significance for popular thought is that it springs from scientific rather than from philosophical sources, for the popular mind follows the scientific leadership today far more readily than it does the philosophic. This revolutionary movement hinges about the work which is at present being done to disclose the nature of the atom. Curiously enough, though science is frequently claiming independence of philosophical ideas, the theoretical, or explanatory, or hypothetical side, as we may call it, of the experiments on the atom, follows quite closely some of the Leibnizian assumptions in philosophy.

It appears that lumpishness, extension, or objectivity, cannot be claimed as the chief characteristic of the atom. The atom has come to be considered as predominantly active. Instead of being a center of inertia with need to be acted upon from the outside, it is defined in terms of force or activity. In fact, it is coming to be looked upon as a manifestation of force. Our notions of lumpishness, objectivity, extension, and impenetrability are thought to be due to varying intensities in the field of force. It is true that, with the characteristic gesture of materialism, some physicists cling to the older conception. *Alpha, beta,* and *gamma* particles are by some looked upon as a sort of differentiated atom, smaller lumps broken off from the larger, and pictured as pellets flying through the air. This is the help of imagination which, times enough in the past, has been called in to aid and embellish the scientific facts.

Such a view is assisted not a little by the means resorted to to make the scattering of atomic force in some way discernible to the vision, as when it is directed through a volatile gas and compelled to do a visible work. That there are actual lumps flying through the air would seem no more necessary than the assumption of the ancients that the phenomena of lightning were due to the passage of fire-balls through space.

Here again the mind is assisted by the materialistic supposition, that being the one that is easiest and which requires no reflection whatever. If, however, the world of modern physics is to be driven, as it seems in the way of being, to the Leibnizian conception of matter as a manifestation of force, and therefore that force is the fundamental reality so far as we can know it, a great step will have been taken in the direction of a definition of reality. It needs to be recalled in passing that impersonal force cannot be considered a final metaphysical definition of reality, because even force, without a resident self-conscious and self-directive intelligence, would be incapable of grounding a purposive, coördinated, and evolving world. Already we feel the old dogmatic assurances of materialism affected by this turn in events. It can scarcely do less than eventually revolutionize the whole field of scientific explanation, and in this there lies great hope for philosophy in general, and for personalism in particular, for if matter is but the coördinated manifestation of force, which we discern only through its manifestation, there is all the more reason for assuming that it springs causally from a basal Intelligence.

Science is forever fearful, and rightly so, of perceiving nature through the lenses of self-experience, lest it mistake vision for fact. Yet it has no means of surveying even the simplest of phenomena except through the glasses of self-interest and expectation. It is never so nearly impartial as it thinks it is, though the scientist should aim to confine

himself to matters of phenomena. He has continually to check up his observations by the findings of others, but the graveyard of scientific nomenclature proclaims the fact that never at any time has scientific speculation been free from the obsession of theory and surmise. It ought not then to be altogether an offense to science frankly to admit the possible value of looking on being, or reality, through the glasses of personal experience.

A little study at this point will show that in experience itself we happen on what, so far as we can know, is the nearest approach to pure being, or to unconditioned being. That experience is the experience of creative causation on the part of the individual. Here the individual has power by the forming of decision, by an intellectual effort, to set in motion new trains of physical causes, or to interrupt and turn into new channels, suitable to his purposes, those already started. However much we may deny this as a scientific fact, we assume it as a part of human endeavor and upon it build the whole structure of life and of society. And what is this pure being in relation to personal experience? Is it not the issuance of material force from an immaterial will? But, you say, that is mystery! Nevertheless, it seems a fact and a mystery which is experienced by every one of us. It is a mystery upon which we practically have to depend no matter how far away from it may be the theory we accept. And year by year we do find the material universe answering to our knowledge and conception of it. Whatever we do in obedience to its uniformities, or to laws already known, yields startling disclosures of power and of mastery. We can scarcely, even against all prejudices to the contrary, hold back the question whether or not the relation of a Cosmic Intelligence to the "force" of the atom is not just the relation of an immaterial mind acting in uniform accordance with its own preconceived purposes. Such a conclusion will seem

to many the undertaking of an overwhelming contract, but, except for the vastness of its scale, it is not essentially different from the assumption that I am morally responsible for my own acts and decisions. This claim is the very basis of all practical living, education, political, and social organization.

When we attempt a rational definition of being our choices seem to be narrowed to two main types. We can assume that the universe is irrational or we can assume its rationality. If it is rational, there is reason for presuming intelligent purpose in its ground, or cause; if it is irrational, there is no sense in attempting to learn anything about it anyway. The history of philosophy discloses clearly the dilemma we are facing; it is either an ordered world proceeding from purpose, and therefore intelligible, or it is to be looked upon, to be wondered at, but not rationally explained. We have no other way than to commit it to the Unknowable. Any assumption that we can or do know anything in or about the world is an assumption in favor of a Cosmic Intelligence, for the ancient Socratic reason that an intelligible world demands an intelligent source, and for the further reason that the intelligence of men must likewise find such a source. If we have causes acting through time toward an appreciable goal, it is difficult to see how we can avoid the teleological conclusion. Any step toward a discovery of law and order, of relation to environment in the interest of biological adaptation to any end, is an advance step toward the recognition of Cosmic Intelligence. Any presumption of the "survival of the fittest" or of "natural selection," time-worn in the interests of materialism as these question-begging terms are, is a presumption which assumes the existence of such Intelligence.

If we choose the other horn of the dilemma and decide that there is no Cosmic Intelligence, we have thrust upon

us the unbearable burden of explaining how order can be born of disorder, and intelligence be sprung from non-intelligence. This should be a "mystery" deep enough to discourage even the most materialistic of scientists. True, it might be affirmed that we are not committed to either "horn" of the dilemma. The whole system of reality might be but a logical absolute. But here again we should fall into the abyss, for both qualities and meanings demand concreteness and discreteness, that concreteness and discreteness which is furnished through the differentiation of the world into first Cause, persons, and things. If we are but the undiscernible and indivisible parts of the Absolute, our position is equivalent to that of the mathematical point, both something and nothing, something when the Absolute wishes to philosophize, but nothing when it comes to reality. In such a case all our thinking is a species of impudence.

While the "mystery" of being which is locked up in personality is inexplicable but is experienced, this "mystery" of the materialist not only cannot be experienced but it is contrary both to experience and to reason. There is no reason, in fact, why the scientist is more justifiable in assuming chaos, accident, or non-intelligence behind the physical order than in assuming order, purpose, and intelligence. In either case he gives himself an unscientific guess. He is not obliged, as a scientist, to make pronouncements either way. This makes his action more unwarranted if he throws the weight of his influence in the direction of irrationality. His case is made more desperate by the fact that nowhere else than in "science" would we be willing to get along with such slipshod thinking. If we were to witness a mob of say ten thousand persons, each acting after his own will, and then at a quiet word of command should see the whole mob resolve itself into orderly platoons and correct formation, and march off in perfect

step toward a common destination, we would not for a moment, outside of science, think of ascribing that orderliness to disorder or that intelligent and purposive action to a non-intelligent and non-purposive ground. Yet the coördinations and uniformities of a drilled regiment of soldiers are as nothing to the niceties of coördination required in the relation of a honey-bee to the true functioning of a cucumber-vine.

The demand for personal Cosmic Intelligence behind the universe deepens as we pass from the problem of being to the deeper one of becoming. How can we establish any relation between that which is and that which shall be, except through the nexus of an intelligent personal agent? We must discard the idea of becoming altogether unless we can introduce this element into the concept. Becoming can be a fact only for a self-relating intelligence, which while changing can endure through change; which weaves together into meaning, the before and the after, relating what now is, to that which was, and to that which is to come. The concept of becoming cannot be invested with rationality except through the functioning of personality.

Our relation to time and the newly established facts of relativity should teach us this. We explain to the youth that he is a potential President, but not apart from his personal choices and activities. Our term potential has in mind a self-directing personality, capable of choosing between courses of action, of preparing for a desired end, by education, by change of environment, by a thousand acts of freedom. Potentiality here assumes such a transcendence or mastery of change as could be true only of personality. And whenever we use the term we consciously or unconsciously imply either an active personality in the process or one viewing the process as a form of relation. If reality is something on the march, if it is in

movement, if it has about it anything of life, change, or progress, such reality is only discernible by an intelligence witnessing the process, and such reality is ontologically established only by assuming purposive intelligence within the process.

What then finally can we mean by essence, being, or reality? Shall it be called objectivity? But that is most likely the manifestation of a force which is either cosmically intelligent or accidental. In the latter case we could not explain its uniformity, for it is never static, as we have frequently thought, but a continuous activity whose uniformity can be explained only by the presumption of a residentiary intelligence acting through long periods of time. Is reality force? Here again the uniformity and adaptability of that force to our mental capacity argue neither blindness nor accident. Do we ourselves taste of reality in creative effort of the will? Whatever the conclusion of the materialist, he himself, if he shows an intelligent adaptation to life, acts as if in the exercise of his creative will he were touching the garment of reality.

And is not creative effort the power and the glory of man. Surrounded by identical common impulsions, drawing the same sustenance from the breast of Mother Earth, his reactions and his creative powers are various in their uniqueness. Every poem, every truly artistic effort, every invention and discovery which reaches beyond the bounds of the already achieved and known, every advance in reflection, every new light upon the nature of society and of the human soul, is creative effort in which he so surely lives that all other life he calls but vegetation, existence.

Surely he takes the high road of life and comes nearest its deepest understandings who discovers it from the standpoint of creative personality.

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BOWNE: *Metaphysics,* Part I, Chapter I, "The Notion of Being"; Part II, Chapter III, "Matter, Force and Motion."

BRADLEY: *Appearance and Reality,* Chapters XIII, XIV.

BROAD: *Scientific Thought,* Chapter VII.

COMSTOCK AND TROLAND: *The Nature of Matter,* pp. 1-76.

FLEWELLING: *The Reason in Faith,* Chapter III.

HOERNLE: *Matter, Life, Mind and God,* Lecture II.

MILLS: *Within the Atom,* Chapters I, IV.

PEARSON: *The Grammar of Science,* Chapters VIII, X.

RITCHIE: *Scientific Method,* Chapter II.

THOMSON: *An Introduction to Science,* Chapter V.

VAIHINGER: *The Philosophy of 'As If',* pp. 195-225, Chapter XIV.

WHITEHEAD: *The Concept of Nature,* Chapter I.

Chapter II

CHANGING WORLD AND ABIDING PERSON

How are we to define change?—Cannot be defined on basis of mechanism because a thing cannot both change and abide at once—Qualitative change dependent on quantitative variation can be shown as largely mental illusion—Cannot be defined out of relation to time, past present, and future—By that which is unchanging—Change cannot be conscious of itself save in the one vantage point of personality—Change to be real must be founded in personal interpretation—Change nothing apart from meaning—Calls for constructive activity of mind—Is a matter of relation—Based on the time-surviving character of personality—In personal Cosmic Intelligence—As matter or relation must go back to the sustaining source of all relations an intelligent world-ground—Change then can be only a relative reference to an abiding personality and like time and space is a form under which we must posit our universe—Its reality lies in its meaning and relation to mind and intelligence.

There is scarcely an idea more common to thought than the idea of change, and there is scarcely one more difficult to define. Like the idea of personality we all assume its reality, whatever our theory about it, and, as with personality, a satisfactory definition has not yet been achieved. Change as a movement in space seems fairly obvious, because apparent to the eye, but reflection soon leads to the recognition of the fact that change in reality conducts into deeper waters. The ability to conceptualize change under the form of spatial movement has kept many philosophers, and nearly all scientists, from a realization of the extent of the problem. If we begin by saying with Hobbes, "all that exists is matter and all that occurs is motion," then change is nothing more nor less than a rate of motion,

matter being a fundamental unit, such as the atom, and quality depends upon the speed with which the atom vibrates in space. This assumption seems a bit ridiculous when reduced to these terms, but it is an assumption that is commonly made without question or scrutiny. What any change amounts to which is only change of position, at a discoverable rate of speed, is one of the deep problems on which the protagonists of materialism have neglected to enlighten us.

Such a definition of change meets immediately with two difficulties. The first is to show how, conceiving fundamental reality as an unchanging atom, or even proton, or even alpha particle, a redistribution in space can properly be called change of quality rather than movement. The question will not down, how this changing something can abide and, at the same time, become different. A mere thing cannot both abide and change at once. The notion is so troublesome that the only way to meet it (from the standpoint of mechanism) is to deliver an opinion on the man who dares to point it out. In fact, on the basis of mechanism no adequate definition of change is possible.

The second difficulty has to do with the relation of quality to this whole subject, for, if what we call quality is merely the speeding up or lowering the intervals of vibration, in spite of all assurances to the contrary, we begin, continue, and end on the quantitative basis, and any perception of quality whatever is only mental illusion. The mind interprets vibrations as qualities, and the real point of explanation of quality lies not in the attempt to show *that* perceptions of quality are attended by vibrational change, but to show *why*. There remains a gulf between quantity of vibration and observed qualities that can never be bridged, because we are forever unconscious of the one, and there is no means, outside the experience

of personality, by which the unconscious and the conscious may be brought together. This is exactly the realistic standpoint of the personalist, but it is ruled out of consideration by any law-abiding mechanist as subversive of his main position.

Even with the most rigorous mechanist the notion of change could not be removed from all relation to time, past, present, and future. It will be seen that any vibratory theory of the grounding of qualities is of the very essence of time. Likewise it is impossible to think of change apart from time relations. The present condition of the subject of change is taken as bearing a definite relation both to past and to future. When now we stop to consider a tentative fact which must receive later discussion, the fact, namely, that time is a relating of events to each other through an abiding medium of some sort, and that this act of relating calls for memory and self-conscious intelligence, the cat is out of the philosophical bag and cannot be persuaded to reënter, except by a main force we are unable to exercise. We are left with the bag in our hands, but we cannot catch the cat. Whenever in the world we have a reality which has to do with a temporal order, we have a reality which is inextricably bound up with meaning, or intelligence, and that intelligence must be recognized as a reality in equal standing at least with any other reality. It must be admitted either as individual intelligence, or as Cosmic Intelligence.

If then we discover the definition of change to be impossible without relation to a temporal order; if "duration," as Bergson somewhere brilliantly says, is the string on which the concept of change must be strung, we find that into our definition of change must go the concept of something which is unchanging. With Bergson it is, at times, an unchanging "law" of change; at times, an *élan vital* and, at times, "duration." Obviously the only way we

can tell we are moving is by reference to something (since Einstein) *relatively* still. Drops of water in a flowing river which could see only each other but not the bed nor the banks of the river, and holding the same relative position to each other, could not, if they were to be endowed with consciousness, be conscious of movement. So, if change were altogether complete, the changing subject could not be conscious of change.

Change is a reality only for some point of relative fixity, and obviously change is also an experience possible only to an abiding consciousness which is able to work under the temporal forms. If we will turn at this point to Lotze's description of reality, we may there discover a definition startlingly appropriate for our needs. To him, the real is that which changes and yet survives change. Now in our own experience the point where we shall be able to put our finger upon this paradoxical reality of changing changelessness, or changeless change, is exactly what we call the ego or self, the self-identifying unit of self-consciousness, or what with some qualification might perhaps be attributed (I am conscious of the delicate ground here) to Kant's "synthetic unity of the apperception in judgment." Change then has no meaning for that which itself altogether rises and passes away, but only for that which experiences change as a part of its own abiding meaning.

We must define change then as a reality of relation which acquires standing only by and through intelligence, individual or cosmic.

I am quite aware that positions so strategic as these I have outlined are scarcely to be maintained without a struggle, nor are the positions they vacate to be surrendered without remonstrance. We must then proceed to consider change from the standpoint just taken, namely, that in

order to be real it must be grounded, first, in personal interpretation and, second, in a personal cosmic Intelligence.

I presume it might be admitted that change is nothing apart from temporal relation. The temporal form under which it is forced to appear compels it to be a meaningful relation between that which did exist in past time, that which exists now, and that which may exist in the future. Close reflection on this fact shows that, if the individual mind is not to be considered the source of changes, the recognition of any abiding element in the changing thing is dependent upon the perceiving and self-relating intelligence. If we were to take out of a changing thing this element of meaning we would have nothing left but unvaried existence.

In the second place, the knowledge or concept of change is not something which is given us off-hand, either *a priori*, or even empirically, without constructive activity on the part of the thinking subject. However simple the case may seem, the concept of change cannot arise directly from perception. There must be a relating activity. The past has been set up as a concept, and with this concept of what was is compared the concept of what seems to be. The so-called "core" of being is nothing more than the abiding similarities in the thing which is undergoing change. Into a knowledge of what is now existing the mind recalls its former perceptions, and concludes through comparison that *this* is some sort of continuation of or relation to the past.

Then, third, wherever change is comprehended it will be seen as nothing more nor less than a relation between past, present, and future things, which the mind sets up in the furtherance of its intellectual interests. This the mind is able to do without being able in any way to account for the connection. Any relation under the order of time becomes an experience of change. What causes the change, what established the relations, or what those rela-

tions in reality are, is a deeper question. It thus frequently happens that the mind falls into error with regard to causation because, while it sets up relations under the form of change, they may be largely fanciful and may not be necessary to the true significance of the process assumed.

This truth might well be applied with respect to the doctrine of change as it relates to the evolution of species. By a deft picturization of change we imagine a species in a vague limbo of both being and not being, and then express admiration when out of the shadows of vagueness something comes forth which has never been before. We are wont to attribute this uniqueness to the immediately preceding state, or species, which did not have it, because we think it necessary to look upon that preceding unit as a cause. As a matter of fact it is rationally less difficult to place the cause of successive members of an evolutionary series in a time-transcending Will than it is to place it in the series itself. The change in the direction of evolution may proceed from a time-transcending Intelligence that grounds the whole process and introduces the unique at every point.

In the next place, the whole significance of change is dependent upon the time-transcending nature of personality. Personality, and personality alone, in all the realms of experience is able to undergo change and yet to survive change. Nowhere, save in personality, do we find a nexus of change and identity. In human experience change is conscious, and so becomes incorporated into the unit of personality. Mr. Bergson describes this process under the figure of the rolling snowball which gathers continually new substance into itself. The figure is suggestive only, for there is a question about the *sameness* of the snowball during the successive moments, which does not arise concerning the experiencing personality. In the case of the snowball the identity is one from without, an identity of

concept to one who watches the progress of the snowball as part of a single movement. In the growth of personality the various experiences are set into a frame of relations the center of which is the self-identifying subject. So, while change may be affirmed as a universal fact, the experience of change can be had only by some such self-conscious unit which has the power at every point to rise superior to the present moment, and gather its experiences into true relations, past, present, and future. To put it in another way, the person might more happily be described as relating these experiences to each other and all to itself under the form of time. Its knowledge of change depends upon this static or time-transcending quality peculiar to self-consciousness.

We have been discussing change as it relates itself to the individual experience, but if change is to be maintained as a cosmic or universal reality we cannot leave it there. This fact is of special importance in its bearing upon cosmic theories such as that of evolution. As change viewed from the individual standpoint demands a person who transcends change, so change in the cosmic order calls for an abiding subject above the process. Only so can we think of the process of evolution as sustaining intelligible relations within itself. Only by some such assumption can we relate the beginnings of evolution with its end, or if some one balks at the word *end*, let us say instead *progress*. The short experience of man is too meager to grasp so great a generalization, and unless one is to assume the presence of purpose, that thought so hateful to materialism, it is entirely fatuous to presume an ordered progress of evolution. Change is nothing more than a recognized relation between the different members of a movement or process, but that relation is a fact of intelligence, and it needs intelligence to give it coherence and meaning. In the end, therefore, no doctrine of universal change can be phi-

losophically grounded or made a justifiable assumption except it be affirmed as a part of the general relation which exists between an abiding cosmic Intelligence, or supreme Creative Personality, and its works.

An adequate definition of change must then include the two elements, a reference to its abiding, and to its relational, character. It must be taken as one of those categories of intelligence under the form of which the mind must think in conformity with its own nature. We may attempt to posit our universe under the static form as did the Eleatics, but it places an unnatural strain upon intelligence and endangers the whole world of concepts. Any scheme or system which attempts to look on the universe from the skeptical standpoint is already committed to a valueless and vacuous world. Any intelligible interpretation of change is likewise forbidden by the nature of understanding unless it grounds its assumption in enduring personality, human and cosmic.

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ALEXANDER: *Space, Time and Deity,* Vol. II, Chapters II, IV.
BERGSON: *Matter and Memory,* Tr. by Paul and Palmer, pp. 246-282.
BERGSON: *Time and Free Will,* pp. 99-112.
BERGSON: *Creative Evolution,* pp. 1-23.
BOWNE: *Metaphysics,* Part 1, Chapter III.
BRADLEY: *Appearance and Reality,* Chapter V.
FLEWELLING: *Bergson and Personal Realism,* pp. 32-194.
JEVONS: *Personality,* Chapter III.

CHAPTER III

THE MODERN DENIAL OF CHANGE

The domination and value of mechanistic theory in science, built upon the assumption of *uniformity of law* and *continuity of action*—Rigorous adherence to mechanism makes evolution impossible and commits the world to a *status quo*—As difficult to provide for a small change as for a great one—The problem is the change and not the width of the gap—The similarity to the ancient deadlock of Eleaticism—Eleatics reduced the world to a standstill by a rigorous dialectic over the problem of infinity—Infinite divisibility being a fact, an inch has as many spaces as an ell—Achilles can never logically overtake the tortoise nor could the scientist find the arrow other than at rest—So in modern mechanistic theory nothing can appear in the effect which was not in the cause, at least potentially—Potentiality can be shown to be meaningless apart from self-directing purpose—Mechanism is incapable of explaining a world of change or progress—Persistence of mechanism due to inertia of false ideas—Scientist has a way of clinging to mechanism by the question-begging term such as "potentiality," "function," "sport," etc.—Modern life demands a logical basis for a changing world.

In a day when there is so much theorizing upon the universality of change, when so many are assuming change to be the fundamental reality in nature, it may come as a shock to some that anyone should charge the modern thinker, and most of all the scientist, with the denial of change. This paradoxical claim is not, however, so difficult to maintain if we take into account the elements into which it is customary to analyze the scientific and philosophic notion of change. That this is true is due to the form under which men have attempted to picture reality. It is a weakness inherent in the mechanistic system.

Of the dominance or the value of mechanistic theory

there can be no doubt. As to its value it has unquestionably provided a container for the back-lying philosophy of science, which has kept down inconvenient problems while the scientist has advanced to more practical discoveries of the uniformities of nature and the means for controlling or directing those uniformities to human purposes. Even the most rigorous mechanism, however, only keeps in abeyance the deeper ontological problems, though it makes its boast to solve them all. Mechanism when limited to the field to which it applies, the field of phenomenal causation, works no particular injury. It is only when extended to cover the field of human choices and human values that it becomes vicious, or when it presumes to enter the field of metaphysics and offers itself as a true account of the nature of being.

The view of nature as a mechanism rests upon two main assumptions, apart from the basal one of matter in motion as the fundamental postulate of reality. These assumptions are the uniformity and universality of law, and the continuity of force. The first of these is necessary to any mastery of nature and to any far-reaching knowledge of the external world, but it is as dogmatic and as dialectical as is the assumption of God in the world of moral values. The postulate of the uniformity and the universality of natural laws is in the nature of the case established by what, in comparison, to the proportion of possible applications, is a necessarily limited number of instances, covering a very limited time. Uniformities might occur in natural phenomena say for ten thousand years, which it would be unsafe to assume were in operation for the previous ten thousand.

Of course, such a suggestion as this is as unsettling to science as the atheistic suggestion is to theology, but there is reason why occasionally the scientific romancer should be called back to confine himself to the facts of observation.

There is good scientific reason for limiting the range of his deduction. Much of so-called scientific achievement will have to be submitted to this test of known fact and particularly that which attempts to build up past situations out of very limited indications as to what those situations were. Here a bone and there a fossil with a tidal deposit and a knowledge of present conditions of life, of sedimentation, and of decay is often an insecure foundation on which to build dogmatic statements as to that historic past. When such an attempt is essayed it should be conducted with the utmost humility and set forth as altogether tentative and suggestive.

The second assumption of mechanism, that of continuity of force or action, is already receiving such severe treatment in the house of its friends that it is not necessary to add peril to its already perilous position by discussion in the field of philosophy. Suffice it to say that Einstein seems to justify completely his affirmation of the applicability here also of the principle of relativity. We believe at least that it has not the compelling force formerly assigned it, nor the wide range of application assumed.

Out of the discussion of mechanism as a system of necessity, in which all results are produced by motion in atoms of uniform identity, is emerging this consciousness, that it is totally incapable of accounting for evolution. A theory which commits all qualitative change to acceleration in the movement of identical atoms may explain redistributions, but it cannot show that redistribution of atoms is equivalent to what we know as change. Much less can it account for the changes which are necessary to the evolution of species. Any rigorous adherence to mechanistic principles commits the world to a *status quo*, for when it comes to providing for change a small change is as difficult to account for as a large one. The failure to see this has been the peculiar fallacy of our age, for it has been assumed

that if the changes were spread over an indefinitely long period they were thereby adequately accounted for.

The real problem of change is, how change can occur at all, and not the width of the gap which must be spanned. Change is committed to infinity of vibration during an infinitesimal time and thus a seeming identity and static quality is pictured as compatible with startling differences, the appearance of the unique and the hitherto unknown. Such assumptions will not bear the light of critical thought. They have flourished only in the absence of constructive criticism. Some will doubtless object that evolutionary change does not involve the qualitative idea we have been discussing. In that case change could mean nothing else than the introduction of the new into the cosmic process. That there can be anything new is just the backbone of mechanistic contention. What *seems* new can be nothing but a rearrangement of what has previously existed. Here the mechanistic argument decapitates itself and commits itself to the static and helpless state of ancient Eleaticism.

To a thoughtful mind there is, in this state of affairs, more than a passing resemblance between the static world of mechanistic science and the ancient scheme of the Eleatic philosophers. They reduced existence to a standstill by a rigorous dialectic over the problem of infinity. When infinite divisibility is erected into a fact rather than assumed as a convenient mental fiction, an inch has as many spaces as an ell and the very meaning of space is controverted. Achilles can never logically overtake the tortoise, nor could the observer find the arrow other than at rest. So modern mechanism by a like reference to infinity of movement and of time hopes to found change in the changeless and reaps confusion instead of explanation. In modern mechanistic theory nothing can appear in the effect which is not already, potentially, in the cause and, if it is held stead-

fastly to its own principles, it can only presume that change is impossible save as an illusion.

Potentiality can be shown to be an unintelligible concept apart from self-directing purpose. When used by mechanism to account for change it is merely a question-begging phrase. There is no possibility of asserting a world of change without also giving a place for contingency and freedom, and real contingency and real freedom can be maintained only by reference to freely choosing Personality behind the creative process.

The persistence of the mechanistic notion of explanation must be charged to the inertia of the human mind, that conservatism of thought, which leads us to cling to false ideas, once they are established, rather than to fly to others the implications of which we do not know. One of the striking characteristics of existence is the parsimony of human thought. The mental poverty of mechanism has too long been covered up by such question-begging terms as "potentiality," "function," and "sport."

If there is one truth which more than any other fits in with present human experience and present mental attitude, it is the truth of change. Ancient Heraclitanism has experienced a return to dominance in the thinking of our age. There is scarcely any fact of which we feel so certain as the fact of change. The modern world is demanding that all life, all activity, even the human values, shall in some manner be caught up and expressed under the form of change. If science and philosophy are to meet this demand, it cannot be through mechanism which is essentially unfitted to provide for any movement, and which as helplessly pictures a static world as did the ancient Eleatics. Society and political life are equally breaking away from static institutions and ancient forms, and are demanding a life whose chief watchword is contingency and freedom.

If this were a movement against the nature of things,

it might well be disregarded. Scientist and philosopher might then return each to his comfortable illusion of changelessness. But the static conception of the world becomes daily less adequate for alert minds. We demand the concepts which will provide for growth, for progress, for life, and the concept of life itself is considered more and more one of change. If we are not to be reduced again to the ancient helplessness of Eleatic dialectic, we must find some scientific and philosophic basis broad enough to bear the weight of thought. Of change we are assured. We are not prepared to accept an imposition of words in the place of a real explanation. Contingency in the world there must be, and freedom in human action, and these can be adequately grounded only in a conception of cosmic personality, creative and intelligent. Under such a concept we are relieved from the static horror, and change takes on the reasonable and purposive meaning of creative evolution.

SUGGESTED READINGS

BOWNE: *Metaphysics*, pp. 44-67.
MCTAGGART: *The Nature of Existence*, Chapter X.

Chapter IV

THE MEANING OF OBJECTS

The meaning of objectivity, to be described only in sense terms? i.e., effects produced on self-conscious beings—If so, meaningless—Outcome of all materialisms in skepticism goes to show that objectivity cannot be considered something quite independent of intelligent meaning—We may mean by objectivity that which exists beyond us or our interpreting sense, i.e., *our* intelligence does not make it—To say that the meaning of objectivity is not peculiar to us is not to say that it is meaningless, non-existent, or independent—If objectivity has a range beyond us and still is meaningless without intelligence, the problem of objectivity not to be solved apart from intelligent world-ground—This world-ground in order to make change a reality and produce objectivity under the temporal form must be creative and continuous—The objectivity of understanding calls then for Creative Intelligence as ground and also as object of experience.

What is the connotation of the term object? The naïve advocate of common sense has but one way of describing objectivity: He assumes that objects are, that they are as they seem, and that such appearance is the end of all rational questioning. When forced by criticism to define objectivity and thus driven out of his original realistic security, he assumes that the reality of the objectivity resides in the thing, a something *behind* the qualities which are seized by the understanding.

Because of the prevalence of the common-sense view the attempt is usually made to describe objectivity in sense terms. Any effort to place it in terms of mind gives it an unreality to which the common-sense realist is very hostile. When we seek out the elements of such definition we come upon such properties as extension, mass, impenetrability, specific gravity, and chemical affinity. These, we discover,

are terms that are relative to experience, but we find that they cannot be stated in terms unrelated to it. Hardness, or impenetrability, for instance, is a term relative to the force one has to use in the act of penetrating or crushing an object. Should our powers be unconsciously increased, our old standard of foot-pounds might be entirely replaced by a new one without our discovering it. Extension and mass suffer equally from a like analysis. Our whole system of spatial measurements would have to be reorganized if our present mastery of space, and the place we occupy in it, were say to be doubled or increased in any universal way.

This fact is not mentioned in the interest of a complete idealism, which to our way of thinking would be almost equally erroneous, but to show that these seemingly substantial and independent qualities, which make up objectivity, cannot be separated from rational content.

Objectivity is always described in terms of its *effects* on intelligent beings. There are no other terms in which to describe it. This fact should give the common-sense realist pause, for even he should see that he is not describing something which dwells apart from its effects, or independent of them, or even independent of intelligibility. The first half of this claim, namely, that objectivity must be described in terms of effect, will, we fancy, be readily granted; but that it is never independent of meaning will most surely be questioned. Can objectivity be presumed apart from meaning? What is the *effect* of objectivity? On feeling, it is the sense of touch, an affection of the terminal nerves by which impulses are carried to the brain. So also with affections of the ocular nerve and the other organs of sensation. The effect is both physical and mental, and it is impossible to show that objectivity can be defined in one of these terms alone.

If some one arises at this point to protest that the reason

lies in our attempt to infill objectivity with intelligibility, the retort courteous would be that intelligibility as an element in objectivity is needed to validate knowledge. If there is a reason why we should resort to realism to prevent our world from slipping into mental illusion, there are even more potent reasons for our not allowing it to slip into an Unknowable. A world of mental illusion may still be the subject of investigation, it may have both laws and logic, but an unknowable world precludes all investigation. This outcome of all realisms of the materialistic sort in an eventual philosophic skepticism, necessitated by the omission of the metaphysical element in their doctrine of knowledge, is perhaps the best evidence we could have of their exceedingly partial and myopic character. It shows the fatal result of any effort to separate thing from intelligence and emerge with anything worth possessing by either philosophy or science. A definition of objectivity which will prove adequate to the needs of thought or practice should, it seems, include this element of intelligibility and must be carried to a metaphysical ground, if we are to account for a knowledge of reality.

The demand for an objectivity independent of intelligence grows out of the natural and justifiable feeling that it is not something which is made by individual intelligences. We must then, in considering such a definition of objectivity as shall include intelligence, recognize the fact that what we may or should mean by it is that which exists beyond us or beyond our interpreting sense, that which our individual intelligence does not make.

The main objection to a thoroughgoing pluralism arises at this point. If there are as many tables in the room as there are people to see this one table, and as many tables as there are possible aspects or angles from which one can see this table, it is too much of a problem to show that there is coherence in the universe. The world of common

and practical knowledge falls apart and sinks of its own weight. We are committed to intellectual anarchy and a pure relativism. The passage of time and the swift succession of events would not allow us that duration in experience which is a necessary part of all true relations. Relation to what is changing through and through, with no abiding core of experience or understanding, loses all intelligible content.

Relation to be comprehensible must be in reference to what is comparatively static. If we are to be thoroughgoing in such a pluralism, even the pragmatic test as a method of determining truth fails us, because we can determine truth only for the moment, and there is not time even to state it in words before it shall have become relatively untrue. Such an attitude, in which life itself with its teeming values and the universe with all its objectivity become a dissolving panorama, a passing phantom of experience, is only a degree less painful than a pure skepticism. Perhaps the most hopeful thing about it is that it is not less, but more, painful than a pure skepticism, for where there is pain there are also some remaining symptoms of life. So, while our demand that objectivity shall not be dependent upon our thought of it persists, this requirement may be sufficiently met by the observation that our intelligence does not create it. This is not to say that it is something independent of all intelligence. Objectivity may be independent of our intelligence and yet be dependent upon a supreme creative Intelligence.

Now, if objectivity has a range beyond us or beyond our knowledge, as well as a range of reality within our grasp, we should look outside ourselves for an intelligent cause of objectivity which measurably corresponds to the intelligence within us. That is to say, if we with bodies and minds looking out upon a knowable world understand any of its processes it would seem to be because both

it and we proceed from the same intelligent source. At this point we are face to face with the ancient debate whether it is more nearly correct to say that intelligence makes objectivity or that objectivity makes intelligence. Each will answer according as the main trend of his philosophy is materialistic or idealistic. We carry no empty hopes of an easy triumph here. All that can be done is to declare in what perhaps will seem a too dogmatic form our belief in the reasonableness of the prior contention. One grave difficulty, at least, stands in the way of assuming objectivity as the ground of intelligence. If objectivity grounds intelligence, what is to be said of error? This ancient reply to sensationalism has never, in our judgment, been successfully refuted. Why do objects not always write identical truths on all minds, or even on the same mind in successive moments? And, further, behind this difficulty lurks another, the difficulty of explaining the likeness or of establishing the relation of mental action to the external object. This to the Personalist, at least, seems to be done usually by begging the question, as when we declare that in the moment of perception "we put ourselves in things." We have no real right on such a basis to speak of "ourselves." There could be no "self" as an entity over against "thing" or "experience" except on the basis of personalism. Intelligence must be held as true a part and source of objectivity as any of the material and external elements which we have considered its peculiar characteristics. If objectivity is bound up with intelligence, the problem of objectivity can scarcely be solved apart from the assumption of a creative cosmic Intelligence of which objectivity is the expression.

Furthermore, there are certain characteristics other than intelligence of which this world-ground must be holden. If the world-ground as the basis of the cosmic order is to produce objectivity under the temporal form, and to make

change a reality, it must be both creative and continuous.

Strive as we may, it is impossible to separate the concept of creativity from the implications of purpose. A creativity which has nothing in view becomes mere meaningless change, and we have seen that change without meaning is impossible. If change is to be anything but a flow of words, the unique, that which is not provided for in the preceding term of the series, must be introduced. Now it may be admitted that the new is something introduced from without and incorporated by assimilation with the already existing, but it is not enough to say that the uniqueness is due to the new combination of elements. There was undoubtedly in the previous member an ability to function, an ability to build the new element into itself, but the ability to build that something into itself in such a way as to create something new or unique cannot be held other than the power of creativity. That is to say, even a change of structure which makes new types of functioning possible, if it is to be accounted for, or if it is to be seen as part of an intelligible evolution, can scarcely be considered the result of accident. There would seem to be some cosmic law governing the case, and, if a law, then likewise an intelligent lawgiver capable of seeing the whole.

If the creative effect is an advance in function, in adaptation, in refinement of structure, in power of survival, it must be taken as an example of creative intelligence either in the plant or animal making the advance (which is improbable and unjustified) or in the cosmic ground. In such a case it seems reasonable to assume that the cosmic ground is active in all life, and if the theories of the new physics be true and the chief characteristic of the atom be not lumpishness but force, it is equally reasonable to assume that the inorganic world itself is the manifestation of such a supreme mind. We may call objectivity lumpishness, mass, extension, gravitation, impenetrability, but

what we so designate may be but the purposive manifestation of a force which proceeds from the intelligent ground and source of all being.

This being true, it will also be seen that this creative intelligence would be continually active. We could not consider the world as something once created and now more or less foreign to creative activity. Every wind that blows, every reaction in the test-tube of the scientist, the mightiest swing of sidereal bodies in their orbits, the falling feather of the wounded sparrow, all would be alike manifestations of an agent continuously creative in whom, as co-creators, all free intelligences, and in lesser wise, all living things, live, and move, and have their being. Objectivity existing under the form of time would, in the very nature of the case, exist as a continuous creation, and objectivity to be real and to be intelligible could proceed only from intelligence which is cosmic, and efficient, and free. We feel justified, therefore, in assuming the reasonableness of the notion that the objective order of existence calls for a Creative Intelligence which can be not only the cause but likewise the subject of experience. And why add to our troubles by saying "also the subject of experience"? Here again our reason must lie in the facts that intelligent creativity needs to be held capable of purpose, and purpose could not exist apart from self-consciousness. It is true that purpose is a part of temporal conditions. Purpose can have reference only to a temporal series, a before and an after, a development that takes place in a temporal order of succession, and there are many minds that will rise in revolt against any presumption of the temporal in the cosmic Intelligence. But if we are forbidden to make the temporal assumption regarding the cosmic Intelligence, it becomes doubtful if we could assume that such intelligence has any relation to the created order of things. By making

God static we sever all known or knowable connection between him and the temporal order of the world.

A temporal world may be an inferior world but it is the only one we are privileged to know about, it is the one we are trying to discover, it is the one we are hoping to explain. Even static mathematical entities, propositions, concepts, essences, and values, frequently set forth as timeless, are concepts and values which exist for minds under the temporal form and which apply them to the temporal order. They are timeless in the sense that they survive us and apply to the endless succession of men who will live under the temporal condition. But always they apply to the conditions of a time-world and without the temporal reference would change character.

If the cosmic Intelligence is conscious of a developing world-order, then it must be conscious of itself in relation to that development and in some measure its experience must fall under the temporal form. It can be held truly to transcend the time-series while it works under it, for the existence of purpose in the world-order as truly calls for transcendence of the temporal order as for immanence in it. This peculiar demand is met only when we look upon the cosmic Intelligence as a creative and self-conscious personality.

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HOERNLE: *Matter, Life, Mind and God,* Lectures II, III.
WHITEHEAD: *The Principles of Natural Knowledge,* Chapters VI, VII.
WHITEHEAD: *The Concept of Nature,* Chapters II, VII.

Chapter V

PURSUING THE PHANTOM OF CAUSATION

The nature of causation, commonly understood in the sense of causal explanation but commonly misapplied to the temporal series—Cannot be identified with mere description of process—Must be considered in temporal and spatial relations—Cannot be considered apart from the whole scheme of relations including biological, social, and mental—Causation to be real must be explanatory, i.e., adequate to the effect—Cannot overlook any teleological aspects if such are present—Must possess a further element of efficiency if it is to provide anything more than a rearrangement of atoms—Uncaused cause the only explanatory type of causation—Personality alone the seat of uncaused cause.

Why should the human mind be obsessed with the notion of causation when the definition of causation is so obscure and the problem presented so perplexing? This is one of the standing enigmas of philosophy. Yet there is no idea more universal than that of causation, unless it be the conviction of the reality of self-consciousness. When a philosophical idea is so universal as this, amounting to a general conviction, a problem is presented which philosophy has no right to shun or overlook. To deny so general a conviction without careful study would be folly. The commonness of the idea arises, of course, out of the commonness of the experience which the individual has of the relation between his wish and his act. However much the philosophers, or the scientists for that matter, may deny freedom, it will continue to be the commonest of human experiences and beliefs. Introspection seems to the average man to disclose the will behind the act, and in the case of activities outside ourselves it is but natural for us to assume a will behind them.

Thus by analogy we arrive at a belief in the free-will behind the acts of other people. When we look upon a world of action the easiest possible conclusion is that there is somewhere a will behind the activity on which we look. It is not necessary to call in the superstitions of ghosts, of magic, of jinn, and of phantoms to account for the positing of will behind action. With the unlettered it is easy to attribute all movements to life of some kind. It is a naïve and easy conclusion to which even the erudite fall a prey in the presence of a hitherto unknown activity.

Causation is generally understood in the sense of causal explanation but is commonly applied only to the series of temporal succession. If we have a series a, a_1, a_2, . . . a_n, a is commonly taken as the cause of a_1; a_1, of a_2, and so throughout the series. There are two aspects under which the series may be viewed. We may think of a_1, as a variation of a and so on down the line. We should then have a mind to the temporal succession in which the differentiated a's follow one another. But it is clear that we have not so far set our minds on the differentiations themselves. We have been thinking of likenesses only, such kind of likeness as can subsist under the temporal form. Now if we are to think in terms of efficient cause or of real cause, we must turn our attention to the differences between a and a_1, and the rest. In each case we have a new factor in the situation, that which did not previously exist. It is this new element, the increment of change, which calls for explanation, and it is represented by the exponents. We have therefore a double order of causation. The temporal series would provide a phenomenal order, while the increment would furnish the differences and might be the efficient order of causation. There will always be a tendency to confuse the phenomenal or temporal order with the efficient or really causal order. The failure to separate these two types of causation has caused and will continue to

cause endless confusion in thought. The problem of causation cannot even approach disentanglement until this fact is recognized.

Another common fallacy which must be faced is the notion that causation is explained by a mere description of the process. There is really no reason why any mind, above that of the child, should any longer be misled into this mistake, but again and again we find it set forth in scientific treatises as adequately meeting all demands of causal explanation. The bending orbit of the earth is "caused" by the *law* of gravitation, the hooks on the seeds of the acacia are "caused" by a hookedness of function in the cell or are "caused" by the chromosomes. There is apparently little recognition of the fact that the statements made simply beg the whole question, naming the members of the phenomenal series in due order but saying nothing explanatory whatsoever. Some one arises to tell us we must be satisfied with this explanation because it is the only one we will get, but we consider it neither scientific nor philosophical to rest on inadequate solutions.

However intricate the description of process becomes, it gives no clue of explanation save the despised one of showing a beautiful coördination of part to function, of living cell to the world for which it is preparing, which to the mind of poet, philosopher, and prophet, as well as to what we consider the best scientific insight, is indicative of a directive intelligence in, and behind, and through the whole.

Unhappily such an insight and vision is still a deep scandal to some, and we continue to attempt the most impossible task of understanding by leaving the understanding out of account. Description of gravitation as the uniform attraction of bodies relative to mass, time, and distance is an attempt at description, poor and, verbose and tautologous enough even as a description, language is such

a poor revealer of thought, but it has nothing at all to say of causation, that is, *why* bodies attract each other according to mass, time, and distance, or why chromosomes control the physical features of the future adults of the species. We can describe so long as words and observation last, but we cannot explain.

Any definition of causation is destined to be incomplete which fails to include the temporal and spatial relations under which all developing things exist. Cause is like change, and, so far as we are able to grasp it, is of the very essence of time. As in change, there exists a relation between what has been, and what now is, and what is yet to come. Evidently this process is without meaning save to an abiding intelligence which experiences and yet transcends the temporal order, and is able out of its experience to erect the order of relation. These relations are nothing except for intelligence, individual or cosmic, and their reality would seem to inhere in such intelligibility. To make causation something apart from spatial and temporal relations would be to remove the credibility of causation altogether.

Just as causation cannot be considered apart from its spatial and temporal relations, so likewise it cannot be considered apart from the whole scheme of relations which is what we call the universe. These relations must certainly include the biological, the social, and the mental, not to mention the spiritual. It may very well be that the time is auspicious, if we hope to make any great advances in the understanding of our world, for us to forsake the positivistic assumption of compartment reality. Surely the time has come when we can no longer afford to ignore the human values. There is no real excuse, no excuse save that of prejudice, why we should not now endeavor to look at our world squarely and admit the realities that are most precious to us, without constantly attempting to

squint half our world out of the angle of vision. This is the thing that is arraying science and religion in hostile camps and bringing no end of confusion both to reason and to religion. A one-eyed man can never see quite correctly and it is our possession of two eyes, we are told, that gives depth or perspective to our vision. Anyway, what we need is depth, and we shall never get the depth, which is perspective and insight, until we include in our vision the whole scheme of relations, physical, temporal, biological, social, mental, and spiritual. They are all here as a part of what we are pleased to call our universe, all bearing relation to each other, all needing to be accounted for, and the poorest way of accounting for them would seem to be to close one eye and begin to call names. Some day men will look back on our boasted era of enlightenment and speak of it as a time of ignorance and mental idiocy because we have decided in most of our thinking about the world to separate those things which are beyond the power of men to put asunder.

Furthermore, causation to be real must be something more than phenomenal; it must be efficient. Stringing out the biological series in an ascending or descending order, with the smallest of discernible gaps between, may provide a reasonable tentative hypothesis as to the order of succession in time, but it *proves* no efficient relation between the members of the series. Some one will make haste to say, if there is not an efficient causal relation to be assumed, what are we permitted scientifically to assume, what is thinkable? It is exactly because no other scheme is at present thinkable that I join hands with my scientist friends in the evolutionary assumption. It is because it appears to be the most reasonable at present, and not because it is a demonstrated or even a demonstrable conclusion.

A scientific age has warned us times enough to beware

dependence upon mental deductions and has apparently done no better than to fall into such a deduction itself, boots, horse, and rider. It is not safe, on the basis of what is still hypothesis, to draw too dogmatic conclusions. One might quite as well string out the collection of watches in a museum in the order of their descending crudity and when they are nicely arranged to declare that the largest and crudest of the lot "caused" all the others and was a sort of progenitor of this last little jewel, which is as complete as any of the lot, which keeps time, and yet serves as a pendant about milady's neck. The thoughtful man will be conscious of a feeling of inadequacy in the assumption that this growing order of complexity and adaptation raised itself up out of chaos into order, adaptability, and intelligence, without the aid of intelligence, either inside or outside the process. There has been too much scientific begging of the question. If we have an effect, the cause must have been adequate to produce it. Intelligence in the cause is demanded by intelligence in the effect. Non-intelligence can never be logically held to be the cause of intelligence.

Thus it becomes clear, we think, that no teleological aspects of causation can be safely overlooked if they are present. If there is increasing complexity working either toward improvement, mental or moral, or even away from it, in the direction of preservation of the species, those facts are as important to an unprejudiced consideration of the case as any that might be called merely biological or merely physical. We must somehow manage to get into our scheme all the facts, not merely those that are pleasant to us, or are easy for us to explain. Better to fall fainting on the world's altar stairs confessing our inadequacy to meet the problem than to rest in the contentment of one-sided conclusions. Without this efficient and teleological aspect, the idea of causation loses all reality and efficacy,

and becomes a mere rearrangement of atoms. Such an abortion of the true notion of causation is like the "sixteen" puzzle of our boyhood. There was a great show of variety in the position of the blocks. It was puzzling at first, but one soon learned to manipulate the blocks through all the required positions until the true order was reached. Nothing had been really done to them, and beyond the mental satisfaction of rearranging no object was achieved.

If causation is then to be efficient and, in the strict sense, causal, it must be by the introduction of the unique into the series. Without the introduction of the unique there are only redistributions, recombinations of the old; relation to the temporal order is lost, and our whole thought of causation falls into unreality and illusion.

Have we any example of uniqueness in experience, any example of the unaccountable? There is one privileged spot where we can find it springing forth and that is in the depths of our own personal consciousness. Here, in all creative effort, we find springing powers for which neither heredity, environment, nor external impulse can account, without at the same moment denying freedom. We describe it as genius. In the last analysis it is unaccountable. It produces not only new combinations of things; it produces what in value and meaning is essentially new. The immaterial acts upon the material, releasing new causal series. It is an example of uncaused cause. We find within the experience of personality itself the only uncaused cause of which we are conscious, and we must conclude that here at last, in limited degree, but real and of profound significance, lies the only explanatory type of causation, namely, that of efficient cause.

When we have traced causation to personal will there is neither need nor possibility of tracing it farther. Granted all the influences of heredity, environment, and impulse,

the deciding factor, if freedom is a reality, is personal decision. It is common in modern psychology to deny this, but it cannot be denied without denying freedom and removing therewith the foundations of all social order, and heaping scorn on all human values. Moreover, this denial has to be made without any scientific warrant and only on the say-so of an undemonstrable psychology. A psychology which thus begins by denying the existence of the self and of human value has demonstrated its uselessness without taking a further step. It is only another example of that untempered credulity which characterizes our time. Making the necessary assumption of freedom, however, the causal series ends in the person and makes unnecessary the resort to an infinite regress of causes. The person contains within himself the capability of creative causation, even though under the great limitation of being compelled to work within the bounds of an order which he does not make.

When we come to the causation of the world we have the choice of two directions. We can assume that Personal Cause originates the whole series of universal activities, or we can assume that these proceed from an unintelligent, non-purposive chaos, down which we pass by a regress approaching infinity to an Unknowable at the end of the line. But at this point two facts should be noted: If that Unknowable is to be deemed causally adequate for an intelligible and coördinated world, it should be both intelligent and purposive. Thus we find the God we had discarded back in the saddle. Therefore, to commit to the Unknowable is a thoroughgoing skepticism, an assertion *that we cannot know*, which is the enemy of all science.

The other fact which we find ranged against us, if we refuse to trace causation to Supreme Personality, is that in order to get along in our world we are forced to the practical assumption of efficient and purposive causation

in ourselves. In that case we ourselves would be the only gods in the world before which we are at times so helpless. Even the most unthinking of us sense at times the unendurable character of such a conclusion.

The more rational, and even scientific, assumption then is that, in a coördinated and intelligible world, causation proceeds from a purposive and intelligent source. Such a conclusion is equivalent to the theistic claim of a Personal World-Ground, but it will remain for many the most reasonable explanation and resting-place in the search for causation.

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Chapter VI

THE NATURE OF LIFE

Life as a process, a constant readaptation of a self-functioning entelechy to passing forms, whatever loses power to adapt dies—As selection, a sort of voluntarism. How does this differ from selectivity of chemical affinity by assimilation into its own substance?—As individuality—As teteological—As self-consciousness—As consciousness of consciousness. Here we have moral readaptation of freedom as well as initiative—As duration in change.

If we have encountered difficulty defining the notions of reality, change, and causation, it is certain that the definition of life will be still more difficult. Each man adopts the definition most convenient for his immediate purpose, and few stay long enough with the idea to begin to master it. In its essence, life is still, with all our familiar talk about it, the unsolved mystery of existence. The discussion is not introduced here with false illusions as to the simplicity of the subject. None of us can capture an adequate definition or describe its nature without terms as comprehensive as life itself. These we cannot have. We may be permitted, however, to consider some of the phases of life which seem to us important to a definition which shall throw light upon the meaning of life.

Presumably a fairly acceptable definition of life might be that it is a process, a constant readaptation of function to environment, the response of a functioning organism, as such, to things other than itself. One cannot pretend for a moment that such a definition would satisfy anybody, but probably most people would pass it by as sufficiently innocuous to be devoid of great harm. Under such a view, death is simply failure to function. Incapacity to

readapt itself to surrounding conditions sends the most highly organized body in the world back into the kingdom of the inorganic. Life is viewed then as a self-functioning organism in which the relations to bodies foreign to itself are the source of continuous readaptations. A process of assimilation, of repair, and decay goes on unceasingly, and where this is going on we say there is life. These are perhaps the most general terms in which we can speak of life. It will be observed at once that this is no more, however, than a blundering and general description of life, and descriptions are valuable only as they describe. The more general they are the less value they have for any particular concrete example.

Life may well be considered also from the standpoint of its selective power. It seems to be endowed with the power to break down other organisms and to subdue the inorganic to a servitude which fits its goal of existence. Frequently the things it chooses for the building up of its own structure are not the things present in the largest measure in its environment. Perhaps a good illustration of this would be the kelp which chooses one of the lesser constituents of the sea-water for predominance in its own organism. There is present here a power which could easily be taken as a form of voluntarism. We have already used the word choice for this selective process. Yet choice is a dangerous word because it can be truly used only where choice is conscious and entails freedom. How is the so-called selective power exercised? Is it essentially different from the so-called selective power of chemical affinity? Evidently care must be taken not to emphasize the voluntarism of the living organism, for that voluntarism is exercised, if at all, within the most rigid limits, and we have the world of life below the animals making its so-called choices within restrictions so great as to seem to be determinative. Plants react in practically uniform

ways; tropisms are in uniform directions; individual plants do not seem to exercise any freedom at all in their reactions, and yet we appear to witness a conquest of the organic over the inorganic which is peculiar to life. We feel it is there, we become skilful in recognizing it, it is to us something different from those activities which are the mere result of chemical affinity. Perhaps the thing we seek will be discovered in the presence of individuality and purpose in the organic, as contrasted with inorganic, existence.

There is a sense in which the uniqueness we describe as life may lie in what might be called the individuality of the organism. It builds an interior within which its activities shall primarily take place. Around the central unit it throws a wall of protection. There is to be a combination of elements peculiar to itself. We have herein a suggestion of the beginning of social organization. It is a combination for offense and defense. It is a combination upon which is the imprint of individuality. It gains uniqueness by means of the relations which exist among its members. Because of the combination it is able to accomplish that which the scattered elements comprising it could never do. It meets the inorganic world with a new impact all its own. Out of this created individualism grow new powers of self-sustenance. It has gained a new ability to take care of itself but, in that very same degree by which it has risen above the common level, it holds its position hazardously. Only by continued activity can it survive. The attacks of the inorganic world must be met in terms of life itself. Its existence, its propagation, and its future are dependent upon its overcoming and enslaving matter to its own needs. The elements urged against it by insensate matter are conquered by

assimilation, but it conquers also by yielding. It has to let go of the elements no longer useful.

There is then a further consideration necessary to our definition, that of purpose. In the very existence of this struggle with the inorganic there seems to be a value worth preserving. This individuality which arises above the dead level seems to present an end in itself. The organism wins not only an individual victory in its own temporary survival. It prepares for the future. This fact brings within our purview a matter of profound importance to science and to philosophy. Wherever one finds provision for the future and recognizes the storing of energy, of nutriment, of weapons of survival over hostile environment, there has, however unwittingly, escaped into the situation a new problem, that of teleology or purpose. The efforts of the organism are now bent on a double purpose. That of self-preservation would seem tremendous enough, but here is the vaster one of continued existence. In the provision of the organism to propagate, to rule the future when its present substance shall have lapsed back to the organic, we have perhaps the first stirrings of a longing for immortality. If we admit the fateful fact of provision by the organism to survive time and change, we may deny the existence of purpose in creation with dialectical skill and scientific ardor, but the fact speaks louder than any words we can utter. Purpose has arrived in the universe (if indeed it has not been long present) ; purpose has at last incontestably arrived! It may be that purpose is the distinguishing characteristic of life.

It is impossible to remain long upon the lower levels in the consideration of the meaning of life. If our definition is to be complete it must include life that has arrived at the stage of self-consciousness. So gradual is the approach to this order that the border line is almost illegibly blurred.

Between the most sensitive plant and the most plantlike animal there is scarcely a choice. Unless we start with the assumption of pan-psychism, the coming of consciousness is a great step forward. The living organism has been acting as if there were a conscious intelligence either within it or behind it. Those who believe it is within can find many points of argument. Their own predilections will furnish a sufficient reason to prove convincing to themselves. If one starts with the assumption that there is no intelligence behind the universe, he can scarcely explain rationally what he sees, save by assuming intelligence within nature. What he seldom recognizes is that he is moved by a predilection which may be quite as strong as the prejudice with which he charges his theistic opponent. At any rate, there is no quarrel about the fact of self-consciousness in that area of life in which it can be incontrovertibly established. Here the living organism is able to struggle toward values. Its experiences are related in some measure to each other and to itself. If the power of recall through a reconstitutive imagination is yet wanting, nevertheless it seems able to recognize and evaluate recurrent situations and impressions. All these gains are in the direction of efficiency and enlargement of function. The individual moves toward a more marked individuality springing from reactions at first accidental and environmental, but settling into unconscious habits of life. This may be taken as a description of life at the level on which the great part of the animal species live.

What is the distinction in terms of life between man and the lower animals? The intellectual faculties of the animals must be recognized. Are they essentially on a par with those of man? Many seem to think so. We have many treatises upon the animal mind which assume there is no basic difference between the mind of the man and

the mind of the animal. We are even exhorted by the preachers of the new scientific revival to study the psychology of animals if we would get any light upon our own psychology. Many are honestly puzzled by the problem. The true distinction between the human and the animal mind was made by Thomas Hill Green long ago, and one knows not how long even before him, perhaps about the time of Socrates. The animal mind is conscious of an external world and of the relations of that world to itself; it is conscious of pleasure and of pain in their relation to itself; it finds satisfaction in the presence of others; but it lacks one necessary element which bars it from ever rising to the human plane: It is not conscious of consciousness. Does that seem a heaping up of hard words without definite meaning? The animal has states of consciousness but no power of reflecting upon them. To man is given the supreme gift, the power of reflection upon his own mental moods. He not only relates himself to experiences, he also relates experience to experience, impulse to impulse, and all to his own past or possible action. Out of this power of reflection springs his power to psychologize.

When we speak of the psychology of animals we speak of that which does not exist outside the thought of the psychologist himself. It is proper to speak only of nervous reactions in animals or what in another phrase stands for the same fact. There is, if we use the term correctly, no psychology of animals. Modern psychology has much need for honest and unprejudiced study and investigation at this point. Loose claims and fervid declamation are by no means to be accepted. Audacious presumptions of fact will bear close and logical scrutiny.

With the coming into life of the power of reflection, or consciousness of consciousness, there arise those manifes-

tations of life that are peculiarly human. From a study of the relations of his moods to his acts there springs within the human being consciousness of social and moral obligation, the possibility of language, the inventive arts, aesthetics, the whole foundation upon which he builds the institutions of culture and civilization. Endow a dog kennel with this fine frenzy of conscious reflection, and there is no just reason why in its train there should not be language, social organization, and sense of moral responsibility. We ought to think more highly of this perilous gift than we do, for it is the higher, if not the highest, manifestation of what we call life.

May there be any advance on a state of life so exalted? There is perhaps but one. Lotze has somewhere described personality in terms similar to these: "Reality is that which can suffer change and yet remain the same through change." This might be applied as a definition of life at its highest tension, its fullest meaning. Just as life is born out of struggle to continue an activity, either through itself or its natural successors, so the growing amplitude of life might almost be measured by its ability to conquer time and change. The conspicuous differences in human lives, do they not spring from the varying degrees with which individuals are able, allowing a time-worn phrase, to view life *sub specie aeternitas,* under the aspect of eternity. It may be that life is never achieved in its highest and truest sense until it has shown the conquering ability to take up into itself all change, and to survive forever. It may well be that eternal life is not only the reward of living but the goal of the evolutionary process, the faint foregleams of which are discoverable in the conscious or unconscious efforts of the simplest organism to fasten the individualism of its own being imperishably into the frame of time.

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SIMPSON: *The Attainment of Immortality,* Chapter IX.
THOMSON: *System of Animate Nature,* Vol. I, Chapters II, III, V.

Chapter VII

EVOLUTION AN ACT OF INTELLIGENCE

Progress toward an end the tacit or open assumption of all Evolutionism—Mechanistic evolution in affirming accident as the explanation of order assumes an illogical hypothesis—Gaps in evolution are not made more explicable by making them infinitely small nor by referring them to an infinitely extended time—We have to account for differences in leaves of trees as well as for greatest gap in nature, more and more discover law and purpose here—All biological progress in present is due to intelligent selection toward an end. The significance of this is emphasized when we consider that "natural selection" is oblivious to improvement—If fitness for survival is to have meaning it must take on a moral character and proceed from intelligence—Appearance of the new or unique not to be explained by the past—Either accidental, in which case descent of species meaningless, or to be referred to creative intelligence—Evolution at best the most reasonable hypothesis, by analogy, scientifically undemonstrable. Likeness of skeleton and blood of man and anthropoid apes—The completion of Evolutionary theory by the theistic hypothesis necessary to make it reasonable—Demonstration of physical similarities does not account for the major difference, presence or absence of reflective mind—The whole field of mechanistic evolution would be vacated by the establishment of the biological principle that acquired characters are not transmitted—Science powerless to make the theistic assumption—Unlikelihood therefore of any scientific demonstration—Evolution must then remain in the field of belief—The possible nature of creative act in reference to the development of species.

As Hamlet is necessary to the drama of *Hamlet,* so, however disguised, the tacit or open assumption of evolutionism is progress toward an end. Even the anti-teleological evolutionists assume it, however vociferously they deny the charge. The only difference is that they

refuse to admit a creative purpose behind the process, while they affirm orderliness in accident or chaos; that accident itself works toward a goal. Why accident should serve toward an end they do not think to inquire. The inconsistency of making disorder and accident the explanation of order and progress does not oppress them. The real crux of the problem they hide under the terms "natural selection," "survival of the fittest," "function," and similar expressions, and the logical deadlock is not disclosed to the unwary.

Whatever may be the mechanical scheme erected to give plausibility to the hypothesis of evolution, the essential meaning which lies in the word is never really left out. Evolution is a progress from simple life to the complex, from cruder forms to more refined species, from low powers of adaptation to higher powers of adaptation through countless differentiations and integrations. Bandied about on verbal battlefields, shown again and again to be one of the worst forms of the fallacy of the abstract, disclosed as mistaking description for explanation, the classic phrase of Spencer is still as true an embodiment of evolutionary thought as it ever was. It will doubtless live as long as the evolutionary hypothesis shall live and be taken as an explanation of the origin and progress of species. Whatever time, research, and criticism have done to it, for all practical purposes, the modern world stands by the ancient formula. Evolution is still thought of as "An integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite coherent heterogeneity," through countless differentiations and integrations.

But whatever definition of evolution is assumed, it must include the idea of progress. Now progress is such only through working toward an end. If there is orderly

advance toward a higher form, the important part of that advance is exactly the increment which constitutes the progress, and progress itself is an item of intelligence. Strive as we may, we cannot rid our definition of evolution of the teleological assumption.

First of all then it is evident that evolutionism of the materialistic or mechanistic type, in affirming the accidental origin of progress, commits itself to an illogical and intellectually impossible hypothesis. The materialism of Hobbes has been taken over bodily into this type of thought, especially that part of it which assumes that "all that exists is matter, and all that occurs is motion." From this ground mechanistic evolutionism assumes the eternity of matter and the contingency of motion, which is the real beginning of evolution. Cosmic dust got off balance —how, is a matter of imagination alone. If we attempt to ground the original motion in causation we should be as badly off as without our theory, so we are forbidden to disclose the mechanistic absurdity by asking a question at this point.

In spite of the suave denial of our teachers, what we are here commanded to do is to accept on faith—or, perhaps we might better say, on imagination, the scientific dogma that matter and motion are a sufficient explanation of anything from mountains to oceans, from the sands of the seashore to the striations of the orchids and the marvel of human love. The only reason a rational human being does not repudiate the idea is because he remains blind to the implications which this scientific dogma involves. Nowhere else than here do we find learned men proposing disorder and accident as the explanation, the sufficient cause, of order and purpose. If we sit upon a Swiss chair in the house of our friend and there issue the strains of Beethoven's *Ninth Symphony* from a music box concealed within it, the assumption that the chair came there by

accident, that the symphony was the result of accident, would scarcely be to the credit of our intelligence or of our scientific disinterestedness. Yet this is exactly the position for which the mechanistic evolutionist wishes us to praise him. He credits himself with intellectual tolerance simply because he refuses to think through to logical indefensibility his fundamental position. He compounds the offense by hurling epithets at our "unscientific" attitude and demanding that we acknowledge his intellectual superiority. Fortunately this mood, this type of evolutionist, is becoming rare. He has practically deserted the research laboratory and is found almost exclusively in the popular magazine, where one suspects the real motive to be a potboiling one.

The heart of this fallacy of the abstract which governs the Spencerian formula in the interest of a mechanistic interpretation of the evolutionary hypothesis lies in the committal of the whole process to an infinity of time. It is assumed that if the unique items which constitute the differentiations in the progress are made small enough, by being spread over an indefinite period of time, the problem of how the unique can appear, how that which has not heretofore existed can make entrance, is assumed to be solved. But this is only a verbal and imaginary solution of the real problem. We should not become a party to reducing the problem to an impalpable dust-cloud and then proclaim by *fiat* that somewhere in the dust the magic event took place whereby that which had no existence came into being. In truth, it is as difficult to explain one difference as a thousand, a slight gap as a wide one. The problem in the evolutionary explanation is to show how *new* species could spring into being, how the unique could become. That is an unsatisfactory explanation which can give only such answer as the nurse of other days used to give to biting questions of infancy whose "why" was

answered comfortably with the remark, "little children shouldn't know."

We have to account for the difference between the leaves of the same tree as much as for the widest gaps of nature. If all is under an inexorable law that admits no contingency, whence these differences. If we have a mind to shut one eye and look at nature not from the standpoint of likenesses and uniformities, we certainly have material enough to provide a science of differences, a philosophy of the irrational. History has shown that a philosophy or science of the irrational is not impossible. It is that which lies at the heart of Nietzche's conclusions, and is in fact the fundamental assumption of some skeptics. The main point in hunting up the uniformities of nature is the aid that is given to intelligibility, to understanding. If we find intelligence a helpful assumption in dealing with the universe, why not be true to the assumption throughout and ground our evolution in intelligence and order rather than in non-intelligence and disorder. We might thereby be showing a measure of intelligence ourselves.

The attempt to ground an essential knowledge on an essential skepticism is sure to meet with disaster. And such is proving to be the case. The valuable work of Hume, who by the fires of skeptical inquiry cleared the ground of the unessential and prepared the way for Kant's assertion of the reality of the human values, has entered unqualified by criticism or understanding into the philosophical bias of Spencer. This has become the "Old Man of the Sea" from which scientific evolution has not yet had the mental vigor and disinterestedness to free itself. More and more even in the seeming divergences of nature are we discovering laws of divergence which bring ever more highly into perspective the fact of a contingency based upon purpose. The teleological factor, in spite of all that has been done to deny and cast it out, is increas-

ingly shown to be the fundamental assertion of evolutionary theory.[1]

Favoring the basing of evolution upon the presence of intelligent purpose, within or behind the process, there are certain inevitable facts of actual experience. It would seem unscientific to omit these facts in the interest of a preconceived hypothesis, the hypothesis of mechanistic evolution, but this has been done times without number. The most important of these considerations is perhaps this one. Whenever in known history we witness any advance in species it is the result of coöperative intelligence working through the natural order. Wherever we have an improvement in say dogs, horses, or pigeons, that improvement of strain is nowhere due to the accident of "natural selection." It is ordinarily due to very careful, intelligent, and purposive selection. If this intelligent and purposive selection is removed, no natural selection is even able to keep the point of evolution already gained, but inevitably the species slumps back to the mongrel and common type. Any dog fancier knows how important is this fact.

The extreme difficulty of bringing about improvement of species is shown in the careful scientific work required to produce the loganberry and the multiform creations of Burbank. These results prove beyond peradventure to the discerning mind the reasonableness of assuming that the most intelligent way of explaining intelligible progress is to include the factor of intelligent purpose. Intelligent selection toward an end is the undeniable fact of present biological progress in species. From such a known foundation why should we argue the contrary to have been true in the undiscoverable past? It seems as if only a blind and unscientific dogmatism could have kept us from consistency at this point. The significance of this fact is

[1] This tendency has been emphasized by Boutroux, in his *Contingency in the Laws of Nature*, to mention but one instance.

enhanced when we consider the nullifying character of natural selection. Wherever we have opportunity to observe it, its one characteristic is that it is oblivious to improvement.

A like fate awaits the other pillar of mechanistic theory, the "survival of the fittest" as an explanation of evolutionary progress. In an evolution which puts man with his intelligence and moral achievement as the highly desirable climax of progress, it is impossible with any justice to leave out of our definition of fitness the moral element. Fitness for survival, whether we wish it or not, must include the moral standard, if we are going to think of man as the most fit. This is the burden we take on in the seemingly simple assumption that man is at the top of the line of "descent." The appearance of moral fitness cannot be explained by the mechanist. The best he can do is to shut his eyes and deny its existence. We have not been lacking in individuals who had the fortitude even to do this, but the only reason they were allowed in decent society was because their lives belied their theory.

Now, if we let into our definition of fitness the moral element, which we must if we are to include man, we have let loose the fatal genii so hateful to the mechanist, moral purpose in evolution. An evolution which provides for growing moral achievement can be explained only by referring to a creative intelligence of which moral purpose is the chief and abiding characteristic. And, too, this fatal admission is borne out by what we actually know of life. The advance of time has been marked by the steady disappearance of those very forms which by reason of strength and combativeness were best fitted to survive. The race has not been granted to the swift but to the serviceable. The sabre-toothed tiger must have been a terribly beautiful product of evolution, but his very fitness made his survival undesirable in a world of growing values, and he

has passed to his place with the other possessors of claw and fang and courage, while the sheep survives. Thus we have the physical confirmation of the fact that any definition of survival by fitness must take into account the element of relative value. If survival of the fittest is to have any cogent meaning, it must take on character of value for a social world and proceed from intelligence.

In our struggle for an adequate conception of evolution another factor must not be overlooked which has already appeared in the discussion and needs here only to be alluded to, namely, the appearance of the new or unique cannot be explained by pointing to the past which did not contain it. Some will no doubt grow restless at the suggestion as being a mere resort to dialectic, with which they have no patience. It is doubtful if the suggestion can be turned aside by any such wave of the hand. It is customary, for instance, to point to the anthropoid ape which is conspicuously lacking in at least some qualities possessed by man and, dwelling only upon the similarities, to exclaim "from such, or from an even cruder common ancestor, is man." All of which may be true, but none of which is an explanation of the appearance in man of what did not previously appear in his simian ancestry. Wonderful as the similarities are, they do not explain the dissimilarities, and those are the ones that are up for explanation. To point to the likenesses and say, "there you have the unlikeness," is assuming, but not offering, the explanation. It would seem high time that we were done with this kind of explanation, in science at least, whatever we may leave for mere dramatic effect and loose declamation in theology and philosophy. It is a truism of philosophy that a cause must be adequate to account for the effect, and this truism is axiomatic to all intelligence.

There are then two ways of explaining the appearance of the new and higher form. We can either say the new

is accidental, as a "sport," or we can ascribe it to creative purpose. It is questionable how the accidental or the "sport" can secure its place within lawful uniformity. Much work needs to be done by science before this point can be cleared up. If, however, it is possible for the "sport" to maintain itself and find footing under the reign of law, that ability is one of the strongest arguments against pure accident in its appearance, for if we have the purely accidental the whole connection and uniformity provided in the term "descent of species" is invalidated. The only intelligible explanation of such becoming is to assume that the progress of becoming, the appearance of the unique in such a way as to forward evolution, occurs through intelligent purpose; that it is grounded in a creative intelligence which oversees the whole process. Thus alone can we find rest for our minds and adequate explanation for our world.

By this time the highly hypothetical nature of the claims of evolution has become increasingly apparent. We arrange the skeletons of the past in ascending order. There are sufficient scientific reasons for concluding that the ascending order coincides more or less closely with the temporal order of their appearance on the earth. We do not thereby prove their connection with each other. Nor do we thereby prove incontestably that one form produced the other. We do show that such an assumption, qualified by the presumption of the presence *in the process* of a creative intelligence, is the most reasonable *hypothesis* yet attainable regarding the order of species. Even comparison of skeletal and blood similarities between man and the anthropoid apes, which must be granted, can scarcely do more than establish the reasonableness of a theistically grounded evolution. And it is the introduction of the theistic element which provides the reasonableness for the evolutionary hypothesis.

The very purpose of evolutionary thought is to set up an order of uniformity, of causal sequence, and of intelligible progress for the old notion of chaotic, accidental, or miraculous creation. Its very existence urges the necessity for the presence of reasonableness, but it can reach the full measure of order and reason only when it assumes in its causal explanation the existence of an intelligence, which is the source of a reasonable world and a rational species, as the final member of the evolutionary process. The theistic hypothesis is required to make it complete. Some day this essential relation between the evolutionary hypothesis and the theistic hypothesis will fortunately be discovered by both parties to the present dispute. Religion will be found upon the side of evolution. When that day comes will science abandon this hypothesis for something "less animistic"? Who can foretell?

Let us return for a moment to a consideration of the significance of discoverable similarities of physical structure between man and the higher animals. Is the demonstration of such similarities an adequate explanation of the higher qualities that appear in man? In this discussion the main fact of the difference seems to have been frequently overlooked. The main difference between man and the animals is not one of skeletal structure, nor is it even one of skull capacity. The difference is not physical, but mental and spiritual. Man differs from the animal in capacity for reflection on his states of consciousness. Out of this ability to reflect upon his own moods, to enter into judgment with his own mental life, grows his sense of moral responsibility, his power to construct and assign meanings to language, his social and political organization on principles of freedom, and that longing for spiritual self-expression which we call religion. These are powers which are built up within the personality itself; they are in but small part a gift of physical heritage. The infant

is provided only with capacity, and the rest grows out of a never-ceasing readjustment to the world of environment, civilization, and culture. Presence or absence of the reflective mind is the line which shuts off the animal from the human being, and one may well stand upon this ground of essential fact without fear of successful controversion.

It would be a misfortune while considering the relative values of a theistic as contrasted with a mechanistic theory of evolution to overlook what is perhaps, from the scientific standpoint, the most important of all facts. The whole array of mechanistic claims is being displaced by the growing assumption, apparently not successfully controverted as yet, and coming from the laboratory itself, that acquired characters are not transmissible. At first advancing it without seeming suspicion of its dangerous character, a few devotees of the mechanistic hypothesis, at present aroused by the feeling that the evolutionary theory must be saved at all costs, enter the attack with verbal ferocity and practically no facts. So far the supposed facts adduced for their position are too sporadic, and so carelessly gathered as to seem worthless. Countless experiments have failed to bear out their hope. The main drift of evidence is against them. Races that have practiced self-mutilation for ages vary naught in producing specimens true to the original and unmutilated type.[2] The only hope of result seems to be by violence to the germ cell itself.

It is obvious that any connection of development which lay within the organism, sufficient to ground the evolutionary theory, would be dependent upon the transmissibility of the gains made by the individual in the progress of life. Thus at a stroke, not from religionist, nor from philosopher, but from the scientist himself, has gone the possibility of maintaining successfully the mechanistic

[2] Sc. an interesting article on "Are Acquired Characters Inherited" by T. H. Morgan, *Yale Review*, July, 1924.

hypothesis. It would seem that if a doctrine of evolution is to remain at all, and we believe it will remain, it can do so only upon the assumption of a directing creative intelligence as the ground of the world.

We are now faced by what will be to many scientists a disconcerting fact, and to some theists a disappointment. The doctrine of evolution from the theistic standpoint can be demonstrated as the most reasonable assumption. But science is by its very nature powerless to make the theistic assumption. By the very regulations laid down in its charter, science, when it passes beyond the observation of the order of phenomena, passes from the realm of pure science to those of philosophy and theology. This situation may be humiliating to that type of scientific thought which has long claimed the whole field of knowledge and which has denied the reality of everything it could not demonstrate. To others it will come as a distinct relief. Comte triumphantly laid at the feet of science the crown of autocratic authority and contemptuously relegated both philosophy and theology to the broken and discarded past. The trouble was that he invested science with a scepter she was incapable of wielding. He made certain limitations of the field of science to the observation of physical phenomena and the discoveries of uniformities of appearance which we term natural laws. His delimitation having once been seen and accepted must stand. There is no way of recrossing the border and scientifically resuming command of the philosophic and theological fields.

The existence of God, though rationally justified, is not scientifically demonstrable. God is known only through an act of experience, an act of faith, an act of religion. Belief in God is a human value, and human values are known not by material measurements, or experiments of the test-tube, but by experience of life alone, a sort of living realism. Yet the human values are the ones

that give supreme moment to life and which confer worth and dignity upon the supporting physical order itself. Science is permitted to show by her clear light the reasonableness of the theistic assumption, just as philosophy is permitted to show that there is nothing about it inherently illogical. To religion alone is committed the task of affirming the existence of God upon the basis of experience as a human value and of the needs of the human spirit.

If then it is shown that evolution without the supreme creative Intelligence is a truncated pyramid having no apex, and the existence of a supreme Intelligence is an affirmation of faith alone, there is great unlikelihood of scientific demonstration of evolution, and the doctrine must remain in the region of reasonable but undemonstrable beliefs. We believe that science itself is on the way to this view of the situation. The whole life of the evolutionary hypothesis unfortunately has been, and still is, beclouded by the passion of religious recrimination which would never have arisen had there been on both sides less heat and hate, and more light and love.

Who has sufficient scientific and philosophic understanding even to suggest a picture of the possible relationship of a supreme creative Intelligence to the order of evolution? Certainly the writer feels no commission for such a task. It is difficult, in these days of the new theory of the atom in physics, to refrain from the dream of a possible connection, however dangerous. Suppose all objectivity is, as some physicists now declare, only a manifestation of force, the atom, a center of activity from which we gain our impressions of material extension and the other qualities of phenomena. If this activity be the uniform manifestation of the world-ground, whatever that is, and at last it be shown that such world-ground was both purposive and directive, we should have a world-ground both intelligent and continuously creative. Natu-

ral law would be but the rational uniformity of action in such a supreme mind. Yet that uniformity would not make contingency impossible, for both uniformity and contingency would depend on a supreme rational will. When that will should for the general good of the order see fit to act in the direction of evolution, the appearance of the new and unique could be reasonably defended.

But some one spurns the thought of an immaterial will acting on a material order and hotly proclaims the unscientific character of our suggestion. We humbly plead guilty. We are speaking only in the realm of philosophy and of conjecture. We can only hope it is reasonable conjecture. Is such conjecture entirely unsupported by facts? Is the mystery so deep that we are not permitted to ask what may be reasonable? Let us cite a contributing fact from the experience of every reader. The mysterious relation between your immaterial willing and the muscular raising and lowering of your hand is equally beyond your powers of scientific explanation. Yet that there is a causal connection between your wish and your act you are not permitted to doubt save in the cloistered retreat of the laboratory and the classroom, or behind the still safer barricades of the insane asylum. The preponderance of reason may be seen as at least favorable to an evolution which is an act of Intelligence.

SUGGESTED READINGS

BOWNE: *Kant and Spencer*, Part II, Chapter III.

DRIESCH: *Science and Philosophy of the Organism*, Vol. I, pp. 214-224.

JANET: *Final Causes*, Book I, Chapters VI, VII, VIII, IX.

KAMMERER: *Inheritance of Acquired Characteristics.*

LADD: *Knowledge, Life and Reality.*

MCDOUGALL: *Body and Mind*, Chapters XVII, XIX.

SIMPSON: *Man and the Attainment of Immortality*, Chapters X, XI, XII.

STURT (Ed.): *Personal Idealism*, pp. 193-220.

WARD: *The Realm of Ends*, Lecture V.

Chapter VIII

THE RESPONSIBILITY OF ANCESTORS

This is no place for the discussion of biological facts—Can only speak of the philosophical implications of heredity. No questioning of known facts, consideration only of philosophical bearing and interpretation of facts—The limits of hereditary transmission—Confined obviously to the physical—Whether it can be extended to the mental and spiritual depends on two facts, nature of mind and nature of spirit—Some difficulties in accepting heredity as complete and adequate—No place for progress or differentiation of individuals, all alike, or possessing mixture of certain primitive types to be determined by law if permutations and combinations—Upsets hypothesis of evolution because of non-transmissible nature of acquired characteristics, this goes further and assumes non-acquirement of differentiation—And so is in conflict with experience—Non-transmissibility of mental characteristics—Prepared for refutation here, but must closely define meanings. Non-transmission due to nature of thought which is an act, parents transmit the physical organs of acts but not acts themselves. Physical organs modify the quality or kind of act but go no farther, a brain is inherited, an educated mind, never—Non-transmissibility of spiritual characteristics—Spirituality like mentality is dependent on an act or acts of the individual. It is the individual choosing the good or the ideal course as over against the evil one. Here again he is influenced in his action by the possession of a sound body and a sane mind but not morally determined. We can give our descendants an untainted physical heritage. They alone can use it—The arrest of evolution—Gains of civilization not by heredity but by institutions, the development of which is our supreme obligation to the coming generation—With reflective self-consciousness man has fallen heir to the creative progress which must be free and moral—because free he begins where animal world stops.

This is not the place for the discussion of biological facts. Such should be left to the laboratory and to those

equipped by research to deal with them. There is, however, a philosophical implication in all theories of heredity which is properly the business of the philosopher. The purpose of the present text is not to controvert nor to deny any scientific fact. Such an adventure would be even more chimerical than the crusades of Don Quixote against the windmills of Spain. Unfortunately the philosopher has been warned off the sacred ground so many times, and there are so many signs posted against him, that the very suggestion of a philosophical bearing on the question of heredity will appear to many as an impertinence. For this reason words written in the best of humor, of good faith, and even of reason, will be misunderstood. Most scholars are a bit "touchy" regarding suggestions from any field outside their own. Much philosophy is indeed being taken up into the body of so-called science, a great deal of it without any adequate examination of logical sequences, but it is being adopted under the assumed name of science. Its essential character is philosophical under any name. This makes it desirable that a growing group of philosophers should have the temerity to speak, for the words of philosophy are sorely needed, however little they are desired. Nor is the task of philosophy a belligerent one. It is a task favorable to science and it is needed to ward off false and impossible hypotheses. So there shall be here, in so far as we can achieve it, only a consideration of the philosophical bearing and interpretation of the facts of heredity.

Even the most thoroughgoing of materialists would probably consent to confining the influence of heredity to physical capacity alone. Indeed, as a materialist he could logically do nothing less than to insist that the term should be limited to the physical. Whether the definition of heredity could be extended to mental and spiritual facts depends on the definition we are to give to mind and spirit.

If these do not exist, it would seem not quite logical to include them. The only way the materialist can bring about so great a miracle is, of course, to introduce them as physical facts. Whereupon he faces a harder question of the difference in fact between nerve or brain agitations and the ideas which are the interpretations of them. Now, if what we call the mental and spiritual in human life are mere physical activities, the problem arises as to how physical activities are inherited. Walking, for instance, cannot be inherited, only the capacity for walking can be biologically bestowed. Legs we may have but walk we will not, without the initial consent and activity of the individual will. If we are going to make mental and spiritual qualities identical with physical activities, it is difficult to show how an activity dependent upon the individual can be inherited.

In spite of every desire to make the mechanistic theory of heredity prove adequate because it *would* be the simplest explanation if it could be demonstrated, there are several difficulties which stand in the way of its complete acceptance.

The first of these difficulties has to do with the explanation of inherited progress in any individual. The mechanical theory makes the mistake of shuffling between the notion of contingency and necessity. When it serves the purpose of argument it assumes that we have in heredity a closed and mandatory system. The individual is to be entirely explained by the traits of his ancestors. No matter what the demand, if we search somewhere we shall find those very traits that occur in him, and our mechanistic joy will be full. Our joy remains with us until we reflect that frequently it is far less easy to explain the difference in the line of descent than to provide for the similarities. Of course, there is the resort to that blessed term "atavism," which covers a multitude of intellectual

inertias. How can heredity both transmit and not transmit the characteristics of ancestors. We speak of "determiners" of physical characters which lie in the cell, now active, now latent. To reduce this activity to a law would disclose the power of foretelling exact results. Individuals have a way of putting to naught our finest conjectures. Please note we are denying no facts; we simply call attention to the fact that there is contingency present in life, however we may disguise it. Differentiations between individuals must be taken to have arisen as the result of permutations and combinations of characteristics. But if the number of characteristics were confined to the original heredity, how could any differentiations arise in the first place? Evidently we can maintain our position only with great mental embarrassment.

But a still more formidable difficulty awaits in the offing. Suppose the non-transmissibility of acquired characters must be granted. It looks at the present time as if it would have to be granted. Then the last chance to provide for any differentiation on the mechanistic hypothesis is overthrown.

Here we find ourselves, with the best intentions, in conflict with experience itself, for in life we are conscious of contingency. It may be remarked at this point that contingency is very likely to be ruled out by further study. Very well then, but the discoveries of further research, not being now in hand, can hardly be creditably used in the interests of non-contingency. We must at least admit the question as not settled. So while we recognize the appearance of "sports" and do our best to discover a possible law that governs such appearance, it is at least restful and becomingly frank to admit that, so far, there are elements in heredity for which all present theories are inadequate.

So much for the limits of heredity in the task of explanation. Now let us inquire what philosophy may have

to say regarding the nature and place of mental characteristics in heredity. It may fairly be assumed that mechanism can say nothing except by reducing mental characteristics to the plane of materiality. Can philosophy do any better? We have already seen that it is problematic whether more can be said to be transmitted than just the physical basis of activity. A son may inherit a good brain from his father, but scarcely an education. Undernourished or faultily coördinated cells may make it impossible for an individual to achieve certain types of complicated reasoning, or the opposite condition may favor to the point of genius. One may have the physical capacity for thinking handed down to him, but ideas must be had as a result of his own mental activity. It is probably true that inherited physical capacities make propitious or unpropitious circumstances favorable or unfavorable to mental activity. But if there is inheritance here, it seems to be within narrow limits. The son of the blacksmith may be the scholar of tomorrow, and the son of the scholar may be the blacksmith. That will almost surely be the case if the scholar fails to impress the love for books, study, and scholarship on the growing mind of his son, and if the blacksmith with all his shortcomings holds up these ideals as the ones of all most to be desired. We have been teaching eugenics on too low a basis. Nature is far more of a democrat than most of us are willing to admit. Proper exercise, food, clean living will undoubtedly favor the coming generation, but the most important element, by far, is the instilling of proper ideals. If that old resort of ancient evolutionism were true, namely, that there is inherited race experience, then we ought to inherit the education of the past quite as readily as brain capacity. But the facts show that there is no such easy way into our kingdom. Advances are mental, moral, and spiritual and

have to be accepted and achieved by each generation as well as by individuals.

The case for blind heredity is no better off when we come to the spiritual. Here again we are not in the region of physical fact so much as of action. Spirituality is dependent upon moral acts. It results from moral and spiritual choices. Spiritual values arise out of choosing the good or ideal course rather than the evil one. Here mental moronage may prevent the individual from perspicuous thinking and dull the edge of moral perception. A weak body may increase the likelihood of his yielding to temptation. He is, maybe, helped by a sound body and a sound mind, but his moral decisions are not determined by his heredity. While weakness of will through mental incapacity may from one standpoint be held to lessen the chances of right moral choice, one can argue from equally good evidence that robustness of body and mind is attended by much greater temptation and therefore greater likelihood of moral transgression. We can give our descendants an inheritance enfeebled by our indulgence, alcoholism, and wrong living, or made strong through right living; but how they will use it will depend not so much upon what they have inherited from us, as upon the way we have inspired the correct ideals of life in them.

If neither mental achievement nor spirituality, being *acts* of the individual, can be transmitted, upon what are we to depend then for the evolution of society? This truth should have become plain to us long ago. The gains of civilization are not through heredity, but through moralized and spiritualized institutions. We are well aware that so sweeping an assumption as this will be duly contested as unscientific. We will be referred to the notorious Jukes family, and to the Jonathan Edwards family as a conclusive argument. Our reply will be that the matter of physical heredity has not been incontestably

shown to be the determining factor even in these cases. It is not fair to overlook the surroundings and ideals of a Jukes home which form a specially dangerous environment for people already overburdened with a weak physical heritage. If the situation could be reversed and a Jukes descendant transplanted to an Edwards home before the earliest moral impressions could be received, such an experiment would be of some scientific value. Otherwise it is of questionable value in establishing the relative importance of physical heredity as contrasted with moral and social training. We have known a mental moron to be inculcated with moral ideas, though his mentality prevented his making as high use of them as would another.

The gains of civilization can never be either achieved or made secure by a system of eugenics. Such gains are made and perpetuated through the institutions of society, educational, political, domestic, social, and religious. It is the existence of these institutions which carries on the gains of one generation to the next. He who builds an ideal domestic life of true and spiritual relationships within the home has deposited a corner stone in the fabric of human civilization. He who invents or gives expression to an art which is uplifting to human minds has added imperishably to that structure. Honest and high-minded tradition, much inveighed against in our own time, is the bulwark which dams back the flood of recurring barbarism. The institutions of society, of the state, and of religion give steadfastness to the great gains of the race. When respect for institutions perishes, either through unworthiness of the institutions themselves or through the moral degeneracy of the men who live under them, the whole structure of civilization collapses and man has the struggle once more before him of emergence from barbarism. When institutions such as states, churches, and literatures perish, society perishes with them.

What then is the obligation of ancestors and how may it be fulfilled? Our supreme obligation is the passing on, both by precept and example, of the supreme values of religion and morals, which are discoverable in the past. This is an individual duty of parents not in any way transferable to governesses, teachers, nurses, or preachers. The man nearest the child is the one who most molds him. If civilization is to continue, it will be because the moral influences of the home care for the spiritual ideals, while political institutions embody the true principles of social organization, and institutions of sound learning bring up to the modern day the priceless cultural achievements of the thinking of the past.

There is an important fact concerning the history of evolution which may seem almost entirely overlooked. The oversight appears, moreover, to be one of exceeding importance. This fact is the *arrest of evolution*. That it should not be considered necessary to explain why the evolution of species stopped at a certain point, as well as why it continued until the appearance of man, is difficult to say. We have no example in historic time of a creation of species, however closely we have approximated it through variation. When evolution is named as a universal principle of life, and is charged with so much creative power, it is certainly embarrassing to have it stop working at the only point of observation.

We do not hesitate to suggest that the question is unanswerable from the standpoint of the mechanist. If, however, we assume the presence of purpose in evolution, the existence of a theistic element, there follows at least a partial disentanglement of issues. If man is really the goal of evolution, and the creative purpose was to provide a field for mental and moral achievement, then when man arrived the first phase of evolution was closed. Up to this point evolution had been making toward this end, the

providing of a field for man's achievement. Thus alone can we account rationally for the disappearance of many species which seem to have achieved great adaptations to their world and then to have perished. As a matter of fact, we have at present not only a non-evolution of animal species, but a rapid disappearance of those already evolved. Many species are now on the point of extinction and can be saved only by the intelligent sympathy of man. May it not then well be that we are entering upon an entirely new phase of evolution in which man is to be the intelligent co-creator? Having been provided with the physical grounds, may not the evolution of the future advance to the moral and spiritual stage, which can only come with intelligent moral coöperation between the personal world-ground and the persons he has created? May not the next advance in evolution be dependent on the mental, moral, and spiritual achievement of man himself? When we look at the gains of human society in say five thousand years, a claim for evidences of evolution, mental and spiritual, is disconcerting. We ought perhaps to remember, however, that many aeons were taken in the evolution of a being able to sustain moral development, and we should be prepared for an even longer period in the final stage of that development. We see but little of that world process moving on, in which our lives are but passing incidents. "A thousand years in His sight are but as yesterday when it is past, and as a watch in the night."

To man in coöperation with Cosmic Intelligence seems to be committed the task of future creative evolution. The physical evolution of species is no longer anywhere discoverably in progress. The only avenue of advance would seem to lie in the region of the mental and the spiritual. This advance is committed to the watch-care of man himself. This is the gift that is his in his unique possession of conscious reflection. He begins where the animal world

stops. He has fallen heir to a creative progress marked by a new freedom, and it is moral because it is free. He can make that advance only as he learns to subdue his own spirit and becomes the moral master of himself. Unless we achieve the high goal of mentality, morality, and spirituality which lies within our grasp, the boasted material progress of civilization cannot save us.

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Chapter IX

Is the World Contingent?

Contingency the specter of mechanistic thought—Persistence of belief in contingency due to practical reasons—Contingency an item of experience—Basis of social organization—Foundation of moral progress—Cannot be denied without loss of human values of supreme moment—Contingency necessary to rational explanation —May be said we are not bound to find rationality, if not it is impossible to affirm value of any mental conclusions. Any non-contingent scheme is committed to the infinite regress and eventual skepticism—Skepticism, other than provisional, futile for knowledge. Even science assumes rationality of the universe, cannot start on a denial—Contingency in nature not incompatible with law. Law as a uniformity—In our world of experience contingency found only in human will or action—In nature contingency must be given up or grounded in a supreme personality.

The discovery of uniformity in the processes of nature has been the principal cause of the growth of science, the mastery of nature, and the emancipation of the human mind from superstition. Charged with matters of so great moment to civilization, it seems like an act of open hostility to set any limits to this uniformity. It is and ever has been the task of science to extend continuously the discovery of the range of these uniformities, and bring an ever enlarging world into knowledge and under human control. The basic assumption necessary to science is that every borderland of reality, so far as science can know it, is subject to such uniformity. These uniformities we name the "laws of nature." Now, while the laws of nature have been more or less apparent to us, there is in the consciousness of every human being an experience of freedom. We feel that we are not altogether determined

by heredity, environment, and impulses. We speak of exercising a mind of our own and, at times, we seem to have an experience of going against all natural impulses in the pursuit of duty, honor, or obligation.

Thus in our own consciousness, to say nothing of the appearance of many events which seem accidental and not under any discoverable law, there is introduced a doubt regarding the universal extension of a system of legal necessity to every department of the world of reality. It is truly difficult to maintain contingency outside the realm of our own choices. In spite of mechanistic psychology which offers to bring an adequate external impetus for every deed and to do this so completely as to preclude choice, human experience seems contrary to this conclusion. Even fruit flies show what seems a power of choice in reaction to rays of light which baffles mechanical explanation. There are many experiences which seem to sustain the thought that some activities are not fully under the reign of law but may be contingent on a preference so personal as to be unsolvable. This is what we refer to as contingency.

The doubt of the universality of law is the chief specter that haunts mechanistic thought. There can be no scientific heresy comparable with the heresy of doubting the applicability of law to all things. If they are beyond its reach it is the easiest thing in the world to deny their existence altogether. This, mechanism does, under the stress of a great temptation to save itself at any cost. The program of science is to reduce all known activities to uniform series of succession. In the case of sciences which involve matters lying within the range of human choices, such as economics, sociology, and psychology, we have the conflict between law and contingency raised to the highest degree. These cultures, in order to assure their acceptance as sciences, are continually persuaded to overlook the very

important element of human choice or freedom, or to deny it altogether. The result is not only unfortunate as neglecting the profoundest of human values, but is equally damaging to the scientific standing of these cultures because of their tendency to leave out facts which are not in accord with preconceptions. There is no way to end this deadlock except by the compromise which both parties to the dispute refuse to make. Science should exercise humility concerning matters outside its field, not contemptuously declaring that none such exist, and the exponent of freedom should leave off berating the scientist for refusing to go beyond his natural plane of activity.

We have mentioned the difficulty of getting rid of the lingering belief in contingency, in spite of all the affirmations of science in contradiction. The persistence of the assurance of contingency is due to several practical reasons. Practical reasons have ways of outliving and overcoming reasons that are merely theoretical. The first of these reasons for belief in contingency is the experience of it of which every human being is certain. In our experience of selfhood, the very reason we believe in selfhood is because we find our bodies obeying the command of our desires. We have the experience of bringing to pass that of which we have dreamed. When early we experience a world conforming to our desires, we catch the first thrills of personality. Our selfhood is immediately marked off as a definite center not only of experience but of power. Those same conclusions at which we arrive in the depths of our own being we extend immediately to others by analogy. We assume that they act with the same freedom that characterizes our own efforts. Even when we fall in with the mechanistic psychology and justify our own deeds on the ground that we were moved by compelling external impulses we are not willing to accept our own theory as an excuse when used by the man who has stolen our cash.

We pay tribute to the belief in contingency by blaming him for his moral dereliction.

In the second place, the common assurance of the reality of contingency is the basis of social organization. If we really did believe that men are the helpless victims of impulse, there would be neither rhyme nor reason in punishing crime. In fact, there would be no crime, there being no moral responsibility. Not only the laws but the institutions of society, social custom, and convention, education, business credit, the family, and the state are all erected on the supposition that people are free to choose between courses of action, that at least in the realm of human action contingency is a fact. We thus see the anti-free-willists, as they call themselves, erecting a theory over against the practical and crying needs of society. Having delivered themselves of a theory which runs counter to one of the deepest assurances of life, and which if true would be entirely destructive of all human values, in the name of science they demand that we shall accept it without question. The presumption of contingency in human activity is not only the basis of social organization, but the condition of moral progress, and it cannot be generally denied without the destruction of all human values.

A third reason for the persistence of belief in contingency is frequently overlooked. It is that the human mind feels contingency necessary to rational explanation. It may be said at this point that neither science nor philosophy is bound to find a rational world. Such have been the terms of mechanistic revolt under the spur of uncomfortable problems. But if rational explanation is not necessary to the human mind, it is impossible to affirm value of any mental conclusions. Not only do we find contingency necessary to explanation in the world of human activity and relation, but we go deeper and demand contingency in

the world outside us. Any non-contingent scheme of the universe keeps us groping from cause to elusive cause until we are lost in the infinite regress of eventual skepticism. There must be some provision, in our view of the world, for bringing in the new. To find everything in the past means to commit us forever to a standstill and to make progress impossible. If there is to be explanation of any origin it comes only through the assumption of a contingent creativity. Any scheme that begins by denying the necessity of rational explanation, ends by denying the possibility of knowledge. A skepticism so complete is futile. Science in order to make a start has to assume the rationality of the universe, the rationality of causation, and of relations. It could not even make a beginning on such a denial.

The main objection to contingency in the field of science has perhaps arisen because of its seeming conflict with law. There has been a rather general misunderstanding at this point. If things occur under law, it is assumed that there is therefore no room for the contingent. Let us reflect for a moment upon the nature of law.

Law contains no self-enacting provision, no compelling necessity, as we so often think. Law is a uniformity of response and activity, nothing more. The law of individual action may be so uniform as to constitute a law without in anyway preventing the use of volition. One's newsboy may be so regular in his habits that when one hears the morning paper strike the porch one arises for the day's task with assurance, though all the watches and clocks in the house have stopped. We have here an experienced uniformity taking on the characteristic of a law. We may call it the law of the newsboy's life thus to function, but it is a law that is not incompatible with contingency. The law rests upon the contingency of an individual acting with consistent uniformity. The law was

grounded in no necessity but in the uniform volition of a freely choosing personality. It is quite as likely that the laws of nature get their constancy not from any necessity within them, for then we should have to explain the source of the necessity, but from the uniform activities of a rational and purposive cosmic Intelligence.

This faith is strengthened by the world of events. In our human experience, contingency is the privileged possession of personality alone. With the power of foresight, of reflection, comes the ability to act in a creative way upon the temporal series. We choose only as we see the before and after, and conceive the possible relations of events. We are thus enabled to direct events in a creative way. We are no longer quite mastered by a world of law and necessity; we ourselves become creators.

These facts prepare us for the assumption of personality in the cosmic Intelligence or world-ground. It is only a self-conscious and self-directive being that can exercise freedom. A state of freedom is the sole condition of development, progress, or evolution. We shall have to advance to this supreme assumption or give over the doctrine of contingency altogether. Scientific demonstration at this point there is none, but the great values of life, of human institutions, of society, and of the individual heart demand it. No theory which recklessly puts itself in conflict with these known needs can hope to survive the passage of time. Do things happen? In the sense that events can be taken apart from their relations? No! But in the sense of freedom, Yes! They may be the voluntary acts of freely choosing persons.

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WARD: *The Realm of Ends*, Lecture IV.

Chapter X

THE WORLD—AN EXPRESSION OF CHAOS OR INTELLIGENCE?

Modern preference for explanation by accident—Due to reaction from dialecticism of the scholastics—Should ask the nature of what we are trying to explain—Here we find the better part of the world to consist of values. Mechanical explanation cannot hope to go very far—Order in nature not to be assumed but explained —Nowhere else would we assume chaos or accident to be the explanation of order—If order here means order behind, then Intelligence.

It is difficult or impossible for the epochs of man's thinking to keep clear of certain overbearing prepossessions. Such prepossessions are apparent to us as we look over the history of thought. The Greek naturalism, that aesthetic sensitiveness to nature which was the source of their unparalleled artistic accomplishment, we now see to have gained strength from an unbounded individualism which made impossible the preservation of the very possessions of its genius. It succeeded and it failed by virtue of excess. Again, in the Middle Ages we see a revival of individualism in the form of religion which found expression in the remarkable achievement of the Gothic architecture, and here also there was lacking the universality needed to pass on the knowledge so hardly won. In each of these instances the vision of men was turned aside by a prepossession which amounted to obsession. Each was great in its way, each set forth imperishable truth, but each failed because of essential incompleteness. Scholastic thought, in like manner, attempted to achieve a universal application but failed by its assumed completeness. It acquired com-

pleteness not by insight, but by leaving out the world of objectivity.

There is a similar short-sightedness in the thinking of the world's great scientific age. As the Greeks sought, in naturalism, to find man's complete expression by neglecting the social, as medievalism sought to find it in the spiritual at the expense of the mental, as scholasticism sought it by denying the material, so our age is endeavoring to find complete expression and understanding in the material by ignoring both the intellectual and the spiritual.

This, we know, is a grievous charge and one that will be hotly resented. Positivism is the answer to such complainants, for positivism is the obsession of our time. It may have failed to make itself felt as a distinct religion, in accordance with the hopes of that early band of English devotees who lightly dismissed from the arena the whole world of previous philosophic and religious thought. There are inherent reasons why a description of positivism as a new religion is a paradox, possessing the dimension of humor. Nevertheless certain viewpoints of positivism have become dominant in modern thinking. Its conclusions control even men who strive to adapt to it a reverent religious and mystical aim. Positivism has laid down the thought program for our scientific age. The heart of positivism is empiricism, and the heart of positivistic empiricism is that only matter exists. The assumption thus arising is that all knowledge comes through sensory stimuli; that all proof lies within the field of physical measurement; that all purpose must be ruled out of the activity of nature; that all explanation is arrived at by reference to motion in matter. The modern age is well on the way to a repetition of the shortcomings of the past. Here again our failure arises from a fatal completeness. This completeness of our thought is achieved by omission of the mental and the spiritual. There is little doubt that

the glory of this age will be placed by history alongside the glory of Greek art, of medieval Gothic, of the thought systems of Scholasticism, but it will like them be outlived, because of a fatal lack.

It is no disparagement of the greatness of scientific discovery and advance to say that it must fail and fail utterly unless it introduces the recognition of spiritual factuality. Our mastery of the forces of nature, unmoralized, constitutes the most powerful menace to the future existence of the race that has ever been known. We are now in possession of sufficient scientific knowledge to bring about world destruction. Our pressing problem is the moralization and spiritualization of human society. This obsession of our modern age has led to the scientific denial of about everything that is of human value or importance. In the world of explanation it has led to the modern preference for impersonal explanation. The origin and ongoing of the world is presumed to have been an original accident of motion. There are many demands for swift mental contortions to ground a world of exquisite adaptations upon such a basis of accident, but there have been those who could do it with a straight face and an extraordinary lack of humor. We have been driven into this remarkable one-sidedness in reaction from the opposite one-sidedness of scholastic dialecticism.

We could scarcely have fallen into so evil a deficiency if along with our eagerness for discovery we had carried a like eagerness for criticism. Suppose we had stopped, for instance, to inquire into the nature of what we were supposed to explain. If we come to grips with the significance rather than with the *activity* of nature we shall see that for man the better part of the world must consist of values. These values are largely out of relation to physical facts, and are therefore beyond the reach of positivistic explanation. These values can be identified with physical facts

only by denying their character of value. Honesty as an expression of organism or impulse and without choice is reduced to a beggary so abject as to render the term meaningless. Positivism was correct then in confining the field of science to the facts of physical phenomena; it was wrong in declaring there was nothing else in the world to explain. When we discover a world in which values are an important part, we must widen the basis of our explanation to include all that is real for man. Values are established only in freedom. Not only is a compelled organic honesty, such as has been mentioned, worthless from the point of value, but it must further disclose a worthy moral aim. The value of an honesty exercised in the interest of the "best policy" is of doubtful value. It is robbed of that quality which we demand in value. Even social science which Comte declared to be the highest is ridded of value when reduced to mechanism. It has taken a long time and bitter disillusionment to relieve ourselves of the folly of thinking that we could, by a simple change of environment, change the moral state of man. The social state while influenced by environment must in the end depend upon good will, the freedom of moral choices, without which social values vanish. We cannot hope to explain moral and spiritual values by reducing all to the dead level of mechanism. Yet that is the daily and hourly task of many of the brightest minds of our age, a task as futile as the rolling of the stone by Sisyphus.

Nor is the fact of values the only one upon which we break in our attempt to explain the world-order. Only less in importance is the necessity of showing the reason for the coördination of our world. It is not sufficient that we should give our scientific word of honor that there is no purpose in the orderly adaptations of nature. If we are going to assert it in the face of such overwhelming evidences to the contrary, it will not do merely to point to

our scientific integrity and omniscience; we must prove it. It may then be discovered that it is far more of a problem to *disprove* purpose in nature than to prove it, and our scientific self-assurance is gone.

Furthermore, such a position is made more ridiculous by the fact that nowhere else is it held good science or even good common sense to point to the absence of a thing and declare that such absence in the past is the ground of its appearance now. If in the beginning there was no orderly purpose in the world, there is at least a highly complex intelligible order now, and it would seem something less than scandalous to admit, in the way of explanation, that the present intelligible order sprang from an original orderly intelligence.

If order here and now implies order in the beginning, the theistic assumption of a purposive Cosmic Intelligence as the active ground of the world is not only satisfying to the human heart but it is reasonable as well.

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SECTION TWO

PROBLEMS OF THOUGHT

Chapter XI

THOUGHT AS AN ACT

Distinction between mind and brain necessary because thoughts are unlike physical sensations and these in turn are unlike external objects—There has in the process of perception taken place at least two transformations, from things to sensations, from sensations to ideas—Why can we not think things, or at least sensations, formed directly into ideas—Because we are often in error—Because even simplest perceptions do not create ideas in the inattentive, unprepared, or uninterpreting mind—Thought must be taken as a mental act—Ideas could no more tarry in the brain than muscular acts tarry in the muscles—Their tarrying is of a similar nature—What influence then may be attributed to the physical condition of the brain?—Dependence of mind upon brain similar to any other means of manifestation, even as the body cannot manifest itself by walking without feet—Development of mental power dependent on the willing act of the individual possessing a normally functioning brain—Slowest to develop, last to deteriorate—No thinking or knowledge possible without attentive and active understanding.

It is now so long ago that Kant set forward what proved to be one of the great discoveries of his century, namely, the activity of the mind in all knowing, that it seems odd that the truth has not yet impressed every one who writes upon the nature of thought. There are many present-day authors who neglect it altogether. Yet Kant's position has never been successfully controverted and it grows in power with added reflection upon its wider relations with life.

There is still a good deal of confusion in terms and meaning, due partly to unclear thinking, and partly, we fear, to a certain definite obstinacy, a determination to defend materialism at all hazards. In spite of this unclear-

ness, however, to some it seems necessary to distinguish between the terms "mind" and "brain." Thoughts are unlike the sensory stimuli which bear a part in their production, and these in turn are unlike the physical objects that excite sensory reactions. In every process of perception at least two transformations take place, the transformation from things to sensations and from sensations to ideas. Whatever the numerous attempts to cover up the disparities, by monism, or by realism, the same old differences appear the moment we attempt to give them definition or to describe the process of thought. The peace is kept only by a common consent to ignore the differences. The moment the arbitrary armistice is off the war is renewed. There is nothing in the nerve functioning of my fingers which is comparable to the smoothness of the board over which I pass my hand. Protuberances on the board would heighten the shock to the nerves, but we still have two unlikenesses fitting into each other to provide material for still another. The shock to the nerves of feeling is borne far away from the point of contact to the brain where presumably some physical process is either set up or at least encouraged. Yet even at this point we have not arrived at the idea of smoothness. The whole process has to be interpreted. There has to be mental activity before one finds himself in possession of the idea of smoothness. So complicated is the process and so great the difference between initial impulse and mental result, so great have been the contributions of the person himself to understanding, that grave questions arise as to whether that understanding is made by things or made by the mind. In spite of all desires for a speedy solution it cannot be lightly assumed. We must give the matter careful consideration.

Let us inquire then why we cannot think things, or at

least why sensations are formed directly into ideas. It is extremely comfortable to take the way of the realist and declare that we perceive things as they are "and that is all there is of it." Why is not this the best solution of the problem? There are at least two insuperable questions which face any realism of this kind.

The first of these is the problem of error. If objects create ideas in us, and reality and ideas coincide, it is impossible to explain the frequent setting up of false ideas. Men have been driven to extreme lengths to defend this position. If one has been bibulously entertained and discovers double objects everywhere from double keyholes to the double bed before which one stands in luckless uncertainty, how happens it that the single world of the ordinary day speaks falsely? It is only a grain of comfort one receives if he decides to fly to the refuge of radical empiricism and to declare there are as many double objects as one is able to see. Then, as if to shock our questioning sensibilities still further, we are told that there are as many objects as there are different aspects under which we may see any one of them. There must be types of mind to which such an explanation seems rational. There are others to whom it is no more convincing than the grin that tarried behind the cat in Alice's wonderful adventures. At times there appears to be danger that the disputes of philosophy will settle down into contradictions of temperament and degrees of credulity. Resort to a pluralism of this type gives only a temporary relief, for if reality is as it appears and appearances are fluctuating, one sense contradicting another without an arbitrating mind, not only does knowledge become impossible, being a phase only of changing appearances, but we cannot even pull our world sufficiently together to make practical living rational. Thus in our real attempt to provide for knowledge, we have actually erected error into equal importance

and credibility with fact. This result may be soothing to the philosopher in his closet, but though it is called common-sense philosophy, it lacks the common sense demanded by actual life.

The second insuperable difficulty of realism arises from the failure of objects in experience to create ideas in inattentive, unprepared, or uninterpreting minds. It frequently happens that words fill our ears without creating ideas, and even sights are cast upon the eye without being perceived. Hearing we hear not, and seeing we do not perceive. One active element of the mind seems necessary to all perception, namely, attention. Attention is given in varying degree, and seems to affect perception in similar degree. Apperception is likewise necessary, if the mind is to interpret its sensations. A babe's eye receives the images of as many objects as does the eye of an adult, but in the mind of the young infant there will be very little content of perception. This is because perception is a mental act and grows with the growing endowment of apperception. The eye of the botanist, the astronomer, the chemist, the microscopist looks into a world which is quite hidden to the untrained mind. Moreover, the will can deliberately set aside, as not useful to its present purposes, the sensations being borne into eye, ear, and touch. It can refuse to consider certain sensations, and so one can turn one's attention upon one's writing, one's reading, one's occupation and pass certain perceptions entirely by. This could not happen if ideas were the simple product of sensations.

If simple perceptions occur only in combination with mental activity, much more must it be held that thought itself is a mental act. If thought is a mental act directed by the personality in response to certain sensations chosen for attention out of a great multiplicity, we shall have to give over some of the cruder notions which have long held sway regarding the storage of thoughts or ideas in the

brain. Here we have had many varieties of figurative thinking, idols of the mind, set up to save the pains of studious reflection. There used to be much talk of furrows in the brain, as if recurring ideas were only ruts, and brain convolutions were multiplied with thoughts. We have had the pigeon-hole theory, with the idea of storage compartments, where similar ideas set up housekeeping in contiguity. Always there is the same old dependence on figures of speech to give range for the imagination and thereby hide the poverty of the concept. There has been much anathematizing of such minds as did not readily accept the proffered figures of speech as setting forth the last scientific discovery of fact. Even much of the latest jargon of materialistic psychology, it is safe to say, will prove as ephemeral as those that have preceded it. If thought is an act, the brain must bear to it much the same relation that the muscles of the legs bear to walking. Walking undoubtedly has a direct effect on the muscles. Much walking makes more walking possible. Yet who would say that the twenty miles done yesterday is "stored up" in the cells of the legs. The activity of the muscles has prepared perhaps for the more easy accomplishment of the twenty miles today, but if one waits a year before essaying the road again the privileged state is all but lost by disuse.

The brain is the muscular organ which grounds mental activity. The scope of mental activities is dependent on its normal physical structure as the act of running is dependent on the presence of normally functioning muscles in the leg. The personality directs this mental activity in the creation of ideas as the runner directs the course of his running. That there is purposeless and random thinking is no more of a count against our conception than purposeless and random drumming of a pencil, or tapping of a foot, or twirling of thumbs of a nervous person would

be a count against the possibility of a normal and purposeful direction of his muscular activities. Thoughts then do not tarry in the brain. Whatever changes take place in the brain do so under the spur of mental exercise and having been once mastered are more easily mastered again. But mental capital once acquired does not necessarily remain undeteriorated. We frequently say "no one can take our education from us," but it is equally as possible to lose it as for the runner to lose the capacity for running. We can preserve mental capacity only at the price of mental activity.

There is bound to be a great deal of mystery surrounding the way in which the directive personality commands the activity of the brain. It is not easy to discover the subtle intricacies that relate willing to thinking. However, this relationship is scarcely more difficult of understanding than the relation of the will to the muscles of arm or leg. We cannot explain the latter adequately. We cannot doubt it as a fact of experience without committing intellectual suicide. Normal-mindedness is as dependent on brain normality as the kind of walking one will do is dependent on the normality of one's legs. Because one short leg makes us wobble, we cannot say that walking is caused by the leg. The walking is the result of a controlling or partially controlling will acting on the muscles. The result is sure to be affected by those muscles. The directing power was not the muscles themselves. Thus personality has ways of manifesting itself through the physical, and the dependence of mind upon brain is not particularly different from that of other manifestations. A personality with injured or deficient brain capacity cannot manifest itself by thinking any more than it could manifest itself by walking if its legs were withered. We are not unmindful of the questions thus raised regarding

the relation of mind, brain, and personality but we shall try to meet them in later discussion.[1]

Under such conditions it is quite apparent that the development of mental power in a normally functioning brain is largely dependent on the mental exercise to which the individual gives himself. The influence of heredity within the limits of normality appear not to be very great. At no place in life is there perhaps greater democracy than at this point. One may suffer from mental neglect, from the environments of childhood, from social indifference, from institutional lack, but the determined individual will rise superior to these obstacles. Frequently the obstacles by intensifying his determination become a spur rather than a hindrance. As the brain is slowest of all bodily organs to develop to full capacity, so it is the slowest to deteriorate, and may keep its vigor, if it has been subjected to long sustained and active exercise, long after other bodily powers have become much enfeebled.

The truth to which Kant long since called attention is therefore one of great importance. It is of importance to the individual who has the responsibility for the use of his own understanding. It is important to educational theorists if they would truly understand and direct the mental growth of the young. It is essential to all correct theories of perception and cannot be safely overlooked by theories of thought. It is a fact of common experience which we cannot philosophically deny without practical inconsistency. No thinking nor knowledge is possible without an attentive and active understanding. *Thought is an act.*

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[1] Sc. Chapter XXI, "Self-Consciousness and the Self," p. 183.

Chapter XII

"What Do You Know?"

The character and limitations of knowing—Fields of philosophy and science have grievously suffered for lack of definition—the too generous use of words—"What do you know?" a profounder question than the proponent is likely to realize—Knowledge is confined to scientific demonstration and so covers but a portion of practical needs—Truth is a more comprehensive term and should not be limited to knowledge—Failure of science to note this distinction has led it to assume no truth outside of the demonstrations of science, which are inadequate for practical needs—Knowledge strictly speaking might be properly the term applied to demonstrative knowing—Knowledge dependent on an interpretive act—Even knowledge of surest demonstration is not something apart from interpreting intelligence—Obviously the world of objects would not mean the same to the hunter, the dog, and the deer—The law of gravitation holds all three, only man is conscious of it as law—Man's power of reflection enables him at this point greatly to increase his power, so he expands a gas which makes the bullet out run the deer and his knowledge of ballistics enables him to fire above and beyond so as to be successful—All that fine world which science has built in the field of demonstrative knowledge is due to mental effort and power—Animals have no science—Strange that men heap ignominy on the greatest power of all—What do we mean by demonstration—Uniformity of Appearance—When we speak of scientific demonstration we mean we have discovered the uniformities of succession in phenomena—By reproducing the conditions we can order the results, and these results take their place in our normal experience—Scientists feel surer of this if it falls within the range of the five senses, but there are many modern efforts to extend the field into the region of thought as in modern psychology—Cannot go beneath uniformity to essence without losing ourselves—In the last analysis any phenomenon to get standing must be common-to-all—Do not go back of color to discussion of whether it is objective or subjective—Knowledge becomes

then a practical possession—Incapable of dealing with things apart from their use and meaning.

The fields of philosophy and science have suffered long and grievously from the lack of precise definition, the affliction of words. It would be a marvelous gain if in some way we could characterize and define the meaning of knowledge. "What do you know?" facetiously spoken is a profounder question than the average propounder of it realizes. We ought by some sort of common consent, perhaps, to use the term knowledge as designating the demonstrations of science, while truth might be taken as the larger and more comprehensive term, not limited to scientific demonstration alone but applicable as well to human values. We nurse no illusions at this point. We shall, on the one hand, be commanded to say whether we think scientific knowledge is not truth, and the opposing party will insist on asking whether we mean to rule knowledge from the category of human values. Because of this reluctance to come to any mutual understanding as to terms the old debate goes on and may till the end of time.

This fatal lack in the discussion is largely responsible for the acrimonious controversy between religion and science. There is no basic reason for the controversy. If science can increase knowledge, that knowledge is but a phase or portion of eternal truth and cannot be hostile to a true religion. If religion is true, it has nothing to fear from any discovery in any realm. Science in the last analysis is judged by its conformity to observable phenomena, and religion in its last analysis is judged neither by authority nor purity of descent, but by its practical value for human needs. Some scientists make the mistake of assuming the practicality of science as over against what it considers the unpractical nature of religion. In such a contest as that, religion is sure to win out because it touches

a higher range of practical needs. The spiritual needs of man are even more clamorous than the physical because they involve the very values that give man his distinctive place in nature. They are necessary not from the religious standpoint alone; they are necessary also from the standpoint of humanity. Man can have no adequate knowledge which is not touched with this quality of human value because he must perforce see his world of phenomena through the glasses of what he, the possessor of human values, is. We intend then no disrespect to either party, no disparagement of either scientific or religious values, when we speak of knowledge as applicable to demonstrative knowledge and give to the term truth a broader significance.[1]

Furthermore, short-sightedness at this point has led to the frequent assumption that all certainty is locked within the realm of empirical knowledge. That which cannot be objectively observed, weighed, tested, measured, set in the mathematical terms of science, may be safely passed as negligible and valueless. Thus at a single wave of the hand do we divest ourselves of those very facts of life which are of supreme moment to us. Knowledge and truth must walk together if there is to be any reasonable or measurably adequate conception of our universe.

This fact becomes more apparent when we realize the dependence of any knowledge upon the interpretive activity of the human mind. Even knowledge of surest scientific demonstration is not something entirely apart from the interpreting intelligence. The dog, the deer, and the hunter do not look, for practical purposes, on the same world of objects. The dog would make a poor scientist though he lives in the selfsame world of nature as man. What makes the man scientific is just the possession of this larger world of values, having which he is able to grasp

[1] For discussion sc. Chapter XXVIII, "What Is Truth?" p. 238.

scientific meaning. The law of gravitation is applicable alike to dog, deer, and hunter, but it is only the hunter that can reflect upon his experience and make scientific use of this knowledge. The man's power of reflection enables him at this point to greatly increase his capacity, so he expands a gas which makes the bullet outrun the deer, and his knowledge of ballistics enables him to fire above and beyond so as to be successful. All that fine world which science has built in the field of demonstrable knowledge is due to mental effort and power. Man's knowledge exceeds that of animals to the extent of his superior human possession, which is itself not subject to scientific demonstration, but must be counted as in the plane of values or of truth. Cannot this human possession be demonstrated? In terms of experience and life, yes! but not in the material terms of science. Is it not strange that men should thus unwittingly heap the ignominy of neglect upon the greatest of all powers, those of conscious reflection and self-direction?

Let us then ask a further question. What is the nature and limitation of scientific demonstration? Primarily scientific demonstration means to us that something has taken place in appearance. If we can connect that appearance with previous or succeeding appearances in uniform order or relation, we say we have discovered the law of the appearance and consider the matter scientifically explained. Thus when we speak of scientific demonstration we mean we have discovered the uniformities and co-existences of succession in phenomena. By reproducing the conditions we can order the results, and these results take their place in our normal experience. Scientists feel surer of the demonstration if it falls within the purview of some of the five senses, but there are many modern efforts to extend the field into the region of thought or imagination as in modern psychology.

Science cannot go behind the phenomenal to seek the source of the uniformities it finds. It cannot logically go behind the uniformity to seek the essence of things without committing itself to metaphysics. If it would pass into this region it must take up the whole problem of reality and its relation to thought, and the relation of all to the world-ground. When it does this, whether under the name of science or not, it can no longer speak scientifically. Since if it would speak on these things it must speak philosophically, there is every reason that it should define its field and acknowledge its true relationship. We can only say this, that in the last analysis, scientifically speaking, any phenomenon to get standing must be common-to-all. We accept color as an experience common to all normal vision and we do not in science go back of color to discuss whether it is an objective or subjective experience. We discover the order of appearance in electrical phenomena and ascertain the laws of electrical activity; we do not scientifically presume to say what is the nature of electricity or the ground which supports the activity.

Knowledge becomes then a practical possession whose worth is measured largely by its practicality or by the insight it gives into the nature of the general order. We are quite incapable of dealing with things apart from their uses, their relationships, or their meanings. Do we thus seem to be ridding science of its rich heritage? Has knowledge, kept to a practical issue, an impoverished content? We think not. A certain advantage is to be gained through the imposed limitation. Opportunity is offered to rid science of a weight of expectation and of explanation which it is incapable of bearing. The scientific assumptions regarding space, time, and infinity are good examples. Men have passed from the actual relations which these terms express to assumptions not only scientifically but

philosophically unwarranted by the known facts. Such an assumption in turn faces about to defeat science at its own task. Assumptions come to stand in the way of scientific discovery and hold men back from scientific knowledge. The recent discoveries of Einstein should furnish abundant illustration. So obsessed have we become with certain scientific dogmas such as infinity of space, infinite divisibility, conservation of energy, matter, mass, and motion, and the existence of ether, that we are denying not the theories but the phenomena that contradicted our theories. Thus into science has been dragged again and again the unscientific spirit.

Truth has two eyes for the discernment of the world, the eye of science and the eye of philosophy. In the search for meaning, whoever shall endeavor to get along with one of them will be like the barnyard fowl with a single eye who in his endeavor to see simply swings about in a circle. What do we know? At best only the sequence in phenomena. When we go farther it must be from the world of knowledge to the larger world of values; from the world of science to the world of truth.

SUGGESTED READINGS

DRAKE AND OTHERS: *Essays in Critical Realism*, pp. 86-116, 187-222.

ENRIQUES: *Problems of Science*, Chapter II.

LADD: *Philosophy of Knowledge*, Chapters V, VIII, XII.

LOTZE: *Microcosmus*, pp. 640-681.

ROGERS: *What Is Truth*, pp. 1-86.

Chapter XIII

PROOF AS MENTAL SATISFACTION

Scientific proof is confined to uniform recurrence of events or phenomena—We build up general laws from individual occurrences and reason backward from law to particulars—For example, it would never be admitted that an event had happened without a cause so long as it was possible to imagine that an undiscovered cause had been at work, and it is preferable to suppose an error in an experiment or a defect in an instrument rather than to question the indestructibility of matter or the conservation of energy—Such is our endless ingenuity in devising excuses for them, that it is practically impossible to disprove principles which have once been raised to axiomatic rank in any mind, as atheists soon discover when they attack the conception of God—Scientific proof is dependent on uniformity—Hence scientific distrust of contingency—Value of proof heightened by productive experiences, lessened by negative or non-productive—Scientific proof not applicable to the realm of freedom, which raises the demand for philosophical reflection and systematization—Proof a satisfying of mental inquiry—Reason that after you have proved anything to your own satisfaction, you may not have proved it to the satisfaction of your opponent—This because we can never be sure of discovering or controlling all the causal precedents—Proof has to be of a practical nature and judged by the normal mind, otherwise laughed out of court—Scientific proof no exception—Proofs of Ptolemaic astronomy as satisfying under assumption of Ptolemaic type of mind as any—Proof finally decided by normality to experience.

To define proof as chiefly a type of mental satisfaction will occasion distress in almost any mind upon first consideration. We feel so certain regarding the customary dependencies and meanings of life that so long as they continue not to fail us we do not attempt to analyze them but look upon them as the surest of certainties. If we but

considered the question we might discover that the certainty of proof is essentially in the recurrence of the expected and experienced phenomena. When we come to reflect upon this element in our so-called proof we find a large region outside the realm of science where in the absence of any possibility of scientific demonstration we depend upon the recurrences to justify our practical belief. This is especially true in social, business, and religious life. In spite of all this there is a feeling that scientific proof is somehow of a higher order than any other. Frequently it is assumed as the only field in which there can be any certainty, and its hypotheses are lauded as possessing superior validity.

When we come to consider critically the nature of scientific proof we find that it is a real pragmatism, "the proof of the pudding is the eating," the proof of anything is in the experience of it and in its recurrence under certain recognized conditions of succession. What we frequently do not take into account is, what would be the nature of occurrence apart from intelligible meaning, or the interpretation of the experiencing mind. Thus it comes about that what is called scientific proof is confined to uniform recurrences in events or phenomena. The proof or certainty lies in the recurrence, for an occurrence which would happen but once and out of relation would not be esteemed a scientific fact and capable of scientific proof. The inductive method of science provides only a one-way route to knowledge. By it we build up out of individual occurrences the generalization which we call law. We then reason backward from general to particular and imagine ourselves in possession of an infallible certainty. Hence much that is taken by us as proof arises out of an axiomatic dogmatism. Frequently the cause of real knowledge is held back by these axiomatic assumptions. Attention is called to the purely dialectical nature of these assumptions

by Dr. F. C. S. Schiller: "For example, it would never be admitted that an event had happened without a 'cause' so long as it was possible to imagine that an undiscovered cause had been at work, and it is preferable to suppose an error in an experiment or a defect in an instrument rather than to question the indestructibility of matter or the conservation of energy. Such is our endless ingenuity in devising excuses for them, that it is practically impossible to disprove principles which have once been raised to axiomatic rank in any mind, as 'atheists' soon discover when they attack the conception of 'God.' "[1]

[1] *Formal Logic* (The Macmillan Company, New York), pp. 244-5.

The dependence of scientific proof upon uniformity discloses the reason for the scientific distrust of contingency. Whatever does not come under the reign of uniformity is by so much unaccountable, and being unaccountable is relegated by the mechanist to the limbo of unreality, magic, and false ideas. This incompatibility is a natural one. Whatever falls under the reign of uniformity is classifiable; its place in the succession of phenomena can be determined. Thus it becomes a part of scientific knowledge. Anything outside of this is outside of science. When we come to the realm of contingency, and deal with events that are dependent upon free choices, we have phenomena with which science is temperamentally and constitutionally unfitted to deal. Following the inductive method it endeavors to place causation in the preceding events. These it can find only in sensory stimuli, nerve-responses, and emotional impulses, and, unwilling to admit ignorance or to acknowledge the natural limitations of scientific knowledge, the conclusion is drawn that the field of the physical is the place of causality. In this way we arrive at the conclusion that all human actions are externally determined and that there is no reality in the commonly experienced and commonly assumed human freedom. In such manner

is science tricked into asserting its omniscience in the denial of a fact which is at the basis of all law, government, and social and orderly institutions, and is the most common of human experiences.

This result would surely have been avoided if there had been sufficient critical analysis of the nature of this scientific proof as growing out of the discovered uniformities of phenomena and generalized into an expectation of their recurrence. The value of such proof is of course heightened by productive experiences and lessened by negative and non-productive ones, and the valued assurance gives great mental security. It cannot, however, rule out, as it would like to do, the possibility of contingency. Finding a great portion of nature under the rule of uniformity certainly does not prove contingency impossible nor does it even prove that the uniformity which it names law does not spring from uniform action by a free creative will. So regular might one's habits of daily exercise be that the neighbors would set their clocks by the hour of one's appearance on the street. To them the uniform choice of an hour for exercise would be a law so certain as to be dependable, and yet that law would rest upon contingency. So in the order of nature any series of succession which becomes dependable furnishes all that we need for the practical governance of life. So long as the uniformities continue we can use them, and in the nature of the case the most vaunted of scientific demonstration cannot go farther.

The inapplicability of scientific method to the realm of freedom makes a place for and gives a standing ground to philosophy. In the realm of freedom we face those great human values without which man does not care to live. We can never consent for long to abide by an inquiry which begins, continues, and ends with the physical world, denying this profounder and, for man, more important

world. We are not satisfied to have this world "by which men live," remain unclassified and incoherent. It, too, must be shown to have rational foundations, to be self-supporting, and to bear regular relations to the world of objects. Here again, while the proof may not be quite of the identical order which we observe in the scientific field, still, like proof anywhere else, it is of a practical nature and is determined by the presence of values. Thus there is possible a science of ethical action, an evaluation of human emotion, as love, honor, and patriotism, a realistic experience of God which is known by its ethical fruitage, the presentation of real values. For the practical use and experience of man this proof while not scientific is nowise inferior. It simply moves in a different realm of objectivity. To the man who denies all but the objective, such things are merely a solemn but nonetheless hollow mockery. Such values are incommunicable and depend upon immediate realistic experience. But they include the best and also the most incontrovertible possessions of life, for even thought is an experience which cannot be scientifically demonstrated.

Proof of an event is then primarily a satisfying of mental inquiry concerning it by placing the event in its orderly relations. Its shortcomings arise from this very character. When one has proved a thing to his own satisfaction he frequently finds it not at all proved to the satisfaction of his opponent. There is really nothing which can silence a stubborn unbelief. When all arguments, all instances, have been set forth, it still persists that it "cannot see it." We can never be sure of discovering or controlling all the causal precedents, and there is always a sufficient loop-hole for the doubting. The wise man is he who is satisfied to make the best practical use of information which must in the very nature of the case be more or less tentative, partial, and incomplete, but which offers

sufficient surety of knowledge on which to act for the present.

The attempt to make knowledge less than tentative and to assume with swelling pride an omniscience for scientific method is to close the avenues of scientific progress. In this world nothing much is settled, and better so, for therein lies the promise of man's development. Proof has to be of a practical nature as judged by a normal mind; all other types are laughed out of court, sometimes the most cogent proofs with the rest. The "proofs" of the Ptolemaic astronomy were sufficient and satisfying to the Ptolemaic mind, and some of the commonest sureties under which we abide today may be of an equally passing validity. Proof is finally determined by normality to experience, but even with the best and bravest efforts scientific proof can no more be final and infallible than can proof in theology or philosophy.

SUGGESTED READINGS

BOWNE: *Theory of Thought and Knowledge,* Chapter VIII.
CASSIRER: *Substance and Function,* Chapters IV, V. VI, VII.
FLEWELLING: *The Reason in Faith,* Chapter I.
HALDANE: *Philosophy of Humanism,* Chapter IX.
ROGERS: *What Is Truth?* pp. 29-44.
SCHILLER: *Formal Logic,* Chapter XVIII.

Chapter XIV

WHO IS RESPONSIBLE FOR ERROR?

Why is error a problem?—Error is such a common experience that it cannot be doubted and would not become a problem were it not for the philosophical implications of materialism on the one hand and of absolute idealism on the other—Error in the mechanistic scheme undermines its own doctrine of reality—In the idealistic scheme error becomes the mistake, or worse, of the Absolute—All attempts to lose it in the Absolute inadequate to the normal mind—Error is consonant only with the mind viewed as an interpreter—We can thus think of it without impugning the integrity of science or goodness of God—The possibility of error is also the possibility of knowledge—One of the keenest incentives to mental accuracy—Premium on correctness of thought—The disclosure of error practical rather than theoretical—In science by experiment, in ethics by experience—Error cannot be held as having positive objectivity and destined place in things—Springs from limitations of finite knowledge—Does not dwell in things but in us—Possibility that it may some day be done away, but not so long as knowledge is imperfect, and minds are in the making.

To the man of the street error is no problem. He realizes the correctness of many of his perceptions and, on the other hand, that he is frequently mistaken and must revise his first impression by a second look or by comparison with the impressions of others. He has no doubt as to the possibility of his being deceived and does not seek the philosophical reasons for this fact. Why then is error a problem? It is such a common experience that it cannot be doubted and would not become a problem at all but for the philosophical implications behind the common materialistic reasoning of the man of the street, on the one hand, and the high-flown theories of the idealistic phi-

losophers, on the other. Error becomes a grievous stumbling block to any type of monism, materialistic or idealistic. Only some types of pluralism can make any standing-ground for it in reason.

Mechanistic materialism, for instance, sails with drums beating and banners flying from the starting-point of an essential monism. There is but one reality, the smallest and indivisible unit of matter. From the movements of these units spring all qualities. These qualities write themselves in the mind directly through the nerve excitation. Ideas are thus the direct result of stimuli acting on a passive receiving mind. So far all goes bravely with this theory. We see what we see because it is an objective reality and that is the end of trouble and sorrow. The difficulty is that this theory will bear neither the burden of reflection nor the test of experience. We learn that we make mistakes. We seem to see two objects where there is really but one; our apperceptions, expectations, and prejudice lead us to mistake what we expected to see for the thing we actually do see. Of a dozen persons witnessing an accident no two can testify to having seen exactly the same thing. If the objective world writes itself directly on the mind and we know its truth and reality by just seeing it, the question arises as to how there can be two different notions of the same thing. Hence a mechanistic monism wrecks itself on the rocks of its own definition. It overthrows its own doctrine of reality. There can at last be for it no common reality. Each thing is as it seems at the moment of perception. If astigmatism produces distorted vision, then the apparently distorted world is a reality and we must agree to settle our differences by agreeing to differ. I can have my world and you can have yours. This chaotic state of things has actually been accepted as adequate by certain modern realists.

Nor do we make any particular advance by fleeing to

the refuge of idealistic monism. Our problem is rather deepened, for the reality of our world then becomes a mental reality. In order to be real it must find its place in the Absolute. The Absolutist passes over in cheerful unconcern the knotty problem of what possible relation there could be between an Absolute and a limited finite thought. He gathers a garment of words about the nakedness of ideas. Emanation is the veil under which he hides. Our ideas are emanations of the Absolute Idea. We think God's thoughts after him. The theory has its moments of grandeur and of dizziness. If our thoughts are God's thoughts, how comes it that they can be wrong, or different in different individuals. So soon do we find the Infinite and the Absolute perfection laden with the impossible weight of finiteness and of error. By following spiritualistic monism we arrive, if anywhere, in a blinder blind alley than we do by taking the course of a materialistic monism. Our last state is worse than the first. Error becomes the mistake, or worse, of the Absolute. All attempts to lose error in the vague mazes of the Absolute are as hopeless as the effort of Faust to lose the pup that dogged his step and finally blossomed forth into one traveling scholar named Mephistopheles.

Pluralism has already been mentioned as rendering the problem a whit less tragic, but we must beware a pluralism which makes synthesis impossible. It is well enough to take our world apart for critical analysis but not if we, like the boy who dismantled the clock, are to have superfluous parts when we attempt to put it together again. That is exactly what happens to the materialistic realist. He begins by endowing everybody with a universe of his own and finds he must continue making universes to fit every mood of the hectic childhood of man because man sees things differently on different days. The result is we have so many universes we do not know how to relate

them into any coördinated scheme. If we assume a pluralism that is adequate to meet the problem, it must be a pluralism that is capable of synthesis. Error cannot, with safety to any theory of knowledge, be maintained as pertaining to the world of objects or to an unconditioned Absolute. Whence then does it arise? Where can we place it so as not to negate our doctrine of reality, our certainty of knowledge.

Suppose we assume with Kant that all perception is the result of a double activity, that the mind is not a passive thing on which objects write concepts, but that there are interpretations set up by the activity of mind itself in response to impulses from without. Suppose instead of our ideas being emanations from an Absolute Idea we admit the fact of human freedom. Freedom then makes possible the misinterpretation of facts, even though those facts spring from the unmistaking Absolute. Error is consonant only with mind viewed as an interpreter of sensations. Our pluralism must be the pluralism of free, active, and interpreting persons. Thus we can recognize the possibility of error without overthrowing the grounds of scientific reality or impugning the goodness of the Absolute. This conclusion may be unsatisfactory from the standpoint of insuring the certainty of our perceptions, but it at least makes it unnecessary to overthrow them altogether and to declare for complete skepticism. It brings knowledge into the realm of the approximate and the practical. It admits the possibility of our being mistaken, but it leaves us the opportunity to check up our momentary impressions by the normalities of experience and perceptions that are common to all.

And there are perhaps some things to be said in praise of the *possibility* of error, though one could scarcely say anything for error itself. Possibility of error leads to possibility of growing knowledge, and growing knowl-

edge is the great incentive of rational progress. It is what constitutes knowledge a living, interesting possession. It provides the common school of the human mind. It is the keenest inducement to mental accuracy. It puts a premium on correctness of thought. It yields not only scientific but moral fruitage, as it disciplines man to a sense of responsibility to avoid error, to build up truth, to seek the light of knowledge, and to bear the torch to others. Constituted as we are it is difficult to see how the possibility of mistake could have been done away with without making our world vastly impoverished and wanting in intellectual effort. The struggle after knowledge through temporary defeat is the chastisement which, seeming grievous for the moment, afterward yields the fruitage of real achievement. It is a necessary element in the development of persons.

The whole problem of error is practical rather than theoretical anyway. It cannot be discovered by mere ratiocination. One may become quite distressed over its theoretical implications and wonder how certainty of truth is ever possible. We never have an absolute truth nor having it could we conceive it absolutely. But we have enough truth to walk and work by. Science cannot be sure of its hypotheses, so it works continually at its problem of discovering truth and disclosing error through actual experiment. And it is even so in all departments of life, including ethics. The grand principles of ethics may be revealed to the human spirit, but the application and meaning of those principles in actual life is a matter of toilsome growth and incomplete understandings.

Error should not, however, be held as a necessary and independent part of the general reality. It is the shadow of incompleteness which falls across knowledge. It is the hampering weakness made by the struggle of imperfect and growing learners. When those learners shall have fully

attained, error, though not its possibility, will have forever vanished. It cannot be held as having positive objectivity and a destined place in things. It springs from the limitations of finite knowledge. It is not a quality of things nor of the world-ground, but of our incompleteness. There is a possibility that some day it shall be done away, but not so long as knowledge is imperfect, and minds are in the making, and man must do his work amidst the confusing shadows of the temporal order.

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BOWNE: *Theory of Thought and Knowledge*, pp. 239-244.
BRADLEY: *Appearance and Reality*, Chapter XVI.
LADD: *Philosophy of Knowledge*, Chapter XV.
STURT (Ed.): *Personal Idealism*, pp. 1-46.

Chapter XV

TIME AS A LIMITATION

The common-sense view of time, a flowing stream of events—Incongruity of the thought, flow has meaning only for something which does not flow—The source of time—We find ourselves in the same process of temporal change as events—Where can we find that which endures?—Experience in that which changes and transcends change—Time as a form under which we relate events—Necessity of a temporal succession for minds of limited and finite grasp, to achieve a moral order—Succession and simultaneity—The procession viewed from curb or aeroplane—The extreme variability of the time sense in human things, showing its relative character—Personality the only known experience of time transcendence—Time meaningless apart from the interpretation of relation by intelligence and with meaning for Cosmic Intelligence.

The one unquestionable figure of speech under which most people represent time is that it is a flowing stream of events. One thinks of it as a pageant flowing past. It seems the characteristic of one's world rather than of one's self. So the average man, though he has scarcely given it a thought, is as certain of a stream of time as of any experience he has. He does not stop to reflect that there can be an experience of flowing events only as there is something which does not pass with its experience. Flow has meaning only for something which does not flow. In a flow in which all things kept the same relative position to all other known things there would be no consciousness of flow at all. In other words, events are relative, relative to each other and to ourselves. Whatever the historic time our minds attempt to grasp, we always relate it to ourselves in the present as the abiding focus of all time rela-

tionship. If we think of the reign of Nero, we relate it to our own time in a sort of historic frame more or less filled in with intervening events according to our knowledge. All the time bears upon the present instant of experience, which instant itself is passing away. When we attempt to seize it or to define it it is gone. If we were wholly taken up in the present moment, however, we should have no time experience. It is exactly because we put a before and an after in events, because experiences come under the relation of succession, and because this relation has a very vivid meaning to us that our experiences are set up under a temporal form. Of course, no one would, so one presumes in this day of the world, assume that time is but the manufacture, the artificial product of the human intelligence. It is part and parcel of the world order and does not depend upon us for its validity or upon our thinking it. It is a part of those general relations which we call our universe.

What troubles us is that we find ourselves in something of the same process of temporal change as events. If something is standing still, what is it? We watch ourselves dissolving under the pitiless advance of time. Our experience, our mental being, our content of knowledge, our attitude to the world, the way things look to us, all of these things most intimately connected with our thought of selfhood seem to be as fleeting as the world of events. States of consciousness, psychical moods, all these rise and pass. In the course of a long life the old man seems to have brought down to his present very little from his early childhood. It is so from the standpoint of the completeness of change which has taken place in him. Yet from another point of view he has left not an item of that past behind him. All that was ever his is yet with him, written indefinably into what he now is. Yet of it all he seems to be the critical spectator reflecting on his own

early moods, wondering how things could have once looked to him as they did, yet all events falling into definite and related organization to each other and to himself. Where shall one find that which endures? It is this experience of changing while transcending change which makes the time experience possible. Like the other characteristics which separate man from the animals, his sense of time is made or at least erected into intensity by his power of reflection on his own mental states.

Some will object that animals also have a time sense, but that it exists to any great degree is very questionable. The dog that buries a bone against tomorrow very likely has a consciousness of relation rather than a consciousness of the temporal form. Tomorrow's hunger speaks, or is it more likely today's satiety? Most of the animal "instincts" would be exceedingly difficult to establish as arising from reflection anyway, and there are much more complicated and delicate ones than the dog can give us. The trap-door spider, Fabre shows us, does by an unreflecting instinct what at first sight appears the result of a very high type of reasoning. The hinging of the door, the adaptation to its function in preserving the eggs and providing for the future of her progeny can easily be infilled by human imagination until it seems a highly complex act of intelligence. But there is a single alleged fact which if it be admitted upsets all theories of the presence of a reflective power in the spider herself. If the work be destroyed at a point midway in the process she completes the work as if nothing had been destroyed. She builds on from the point already achieved even though it means the sure destruction of the eggs about to be deposited. A problem is posed which demands reflective intelligence and which is too difficult for instinct alone. In the animals it is then quite unlikely that the temporal consciousness exists at all or, if it does, it must be in a very rudimentary

form. The time experience is essentially an experience by that which is able, through the power of reflection and self-reference, both to change and to survive change.

In defining time as the form under which we relate events Kant seized upon its main characteristic and is found to be confirmed outside of philosophy in the recent doctrine of relativity. Time is the relation of succession in events. The time-transcending mind seeks out the relations of similarity which exist between the successive moments and establishes identity under the form of temporal relations. In the development, for instance, of the acorn into the oak, the process takes place in such a way as to destroy the identity except for a time-transcending intelligence. The twig which has put out a leaf or two is quite different from the starchy embryo from which it sprang. In the course of a hundred years there is nothing but relative position and meaning by which it can be identified. That is to say, the identity is essentially one of meaning for a mind which is able to grasp the multitudinous relations between the acorn and the grown oak. The process is seen as a whole. It is expressed under the form of temporal relations, and time can never be thought apart from the relations between events.

Whether the temporal form would be necessary except to minds exceedingly circumscribed and limited is doubtful. Time might be, as some philosophers describe it, evil, only the shadow of human incompleteness. It would be essential to any causal experience, and a necessary state in the development of moral personalities. The human mind is so constituted that it is incapable of seeing universally. We make all our progress, mental and moral, by a power of discreteness. We bend the mind upon a single event and in so doing we discover it to be one of a system or series of relations. With all our sense of self-continuity we yet apply this same method to our own mental states.

The principal source of both power and progress is our ability to single out the individual, the event, and for the moment to exalt it into chief consideration. Thus are we able to catch the significance of relations, but it is quite likely that inability to include all processes, all events at once, may be directly due to our mental limitation.

What this might mean is illustrated, though faultily, by thinking of a pageant passing between high buildings and through a crowded street. To a child sitting on the curb and able to see only the section of the street directly in front of him the passing vehicles occur in strict succession. The element of time is a very prominent one in his experience. He might conceivably be taken up into a tower or into an aeroplane from which he would simultaneously witness the whole length of the parade. Here the experience of time is lifted to a quite different set of relations. The relations are now seen as simultaneous and continuous and the whole is viewed as a complete process unrolling itself. Its new order of relations is such as exists between the beginning of this general movement in one quarter of the city and its ending in another. Succession and simultaneity are thus shown as being variations in the form of relations. Many contentions are being based upon the discovery of this relative character of the temporal order. Writers inform us that four-dimensionality of space or even multi-dimensionality is thereby erected into assured fact. Time is conceived in its relation to space as another dimension of space. By some it is boldly termed the fourth dimension of space. Viewed as possible standpoints of relation, such a conceptual time must be thought possible. There is no reason why we should stop with four dimensions, however. The only possible limit is the limit of the human mind in its ability to handle the concept of relation. To most of us the meaning becomes very vague as soon as we pass the concept

common to all of us, namely, the concept of three-dimensional space, and one is led to wonder at the necessity of identifying time meaning and space meaning. There is a suspicion that some have seized upon the idea of time as a fourth dimension of space in order to assist the imagination to seize what might otherwise escape it. Surely, so long as time may be taken as a relation between events it will be subject to the multitudinous aspects under which the mind can think relations.

The relative nature of time is still more strongly emphasized when we consider the extreme variability of the time sense in human experience. The meaning of time would be exceedingly problematic except for the setting up of certain definite standards or "marks" more or less remote from our intellectual interests. What would we make of the passage of time were it not for the arbitrary divisions of it made by the succession of day and night, of seasons and years? The child is conscious of succession, but the mastery of the calendar is one of his late and most difficult acquirements. Hours of emptiness or loneliness, of pain or unhappiness leave upon the mind the consciousness of long periods, while happier hours though filled with greater multiplicity of events bear a relation of brevity contradicted by the clock. Some thrilling moment of experience may bear to the experiencing mind the weight, the power, the meaning, and the practical effect of the years of a lifetime. However we may try, it is impossible to disentangle time from this mental element and to make it something extraneous and independent, something apart from the experiencing mind.

This fact is made doubly impressive by another consideration. In an order of time we must have both change and changelessness, both that which flows and that which abides, that which is taken up in the time-order and that which transcends it. This paradoxical fact we discover

only in one situation: it is the common experience of personality. Whatever changes take place in feeling, in experience, in physical and mental growth, we have no difficulty in thinking of ourselves as identically abiding through experiences which change moral, mental, and physical character. This self-identifying unit of experience which we call the self is analogous to Kant's conception of the synthetic unity of the apperception in judgment. We offer this as a matter of opinion rather than as a fact to linger over in an attempt to justify it. We are quite aware our contentions would be opposed by some. The very essence of the experience of selfhood seems to lie in this ability to gather all experiences into enduring relation to itself in spite of all the momentous changes it finds taking place in experience and in its own nature.

The view of time cannot be completed, however, by referring it to finite intelligences alone. Time is meaningless to us apart from the interpretation of relation by intelligence, but we find it is not made by use. It is a necessary part of the system of relations which forms the field of our human activities. We have spoken of time perchance as if it were purely intellectual, as Kant put it, the form of thought under which we relate events. But true as that is, the Kantian solution was not complete and because it was not rounded out on the metaphysical side we have arising that confusion which made so much trouble for Kant's disciples and even for the master himself. He did not make time a part of the general order of relations which includes all existence. Any metaphysics to be complete requires this. It must apply not only to time and change but to matter as well. Kant tried futilely to meet this situation by the affirmation of the thing-in-itself which recommitted him to the ancient and insoluble dualism from which he was attempting to escape. If we assume the whole temporal order to be the momentary

creation of a living Cosmic Intelligence from which proceeds the activity which we know as the atom, and which gives us our idea of reality, substantiality, extension, and mass, and which creates the whole into being as the field of intelligence, endowing persons with a degree of freedom to act upon it, we shall have gone far toward the solving of the philosophical deadlock between mind and matter. Working under the time-order becomes then a possible coöperation between infinite and finite intelligences, an order assumed in the very nature of things to make possible such coöperation. Time would become then the instrument by which the finite and the limited might reach into the infinite. It would be the ladder by which finite minds should climb toward infinity. It might be a possession marking a present grievous limitation; but full of the promise of achievement when perfected in intelligence, in moral grasp, and power, it may come that time shall no longer be necessary for the expression of personality.

SUGGESTED READINGS

ALEXANDER: *Space, Time and Deity,* Vol. II, pp. 38-44.
BROAD: *Scientific Thought,* Chapter II.
PEARSON: *The Grammar of Science,* pp. 208-218.
WHITEHEAD: *The Concept of Nature,* Chapter III.

Chapter XVI

Is There Space Without Objects?

The common-sense view of space as a place to hold things—Source of the spatial order in the *discreteness* of objective meaning—We think of things only discreetly, but establish our own standard of discreteness, jewels, wheels, watches, universe—Space is then the form under which we relate objects—Our notion of space varies with the time element involved—Perspective and four-dimensionality—Mathematical space and practical space—What does it mean to be present?—Space as a form of limitation of knowledge—Space in the order of nature and God.

Since the recent affirmation from the field of physical science that space is relative, the idea of space without objects does not seem quite so ridiculous as it has appeared to some when propounded from the realm of philosophy. Here as in the case of time we have to meet first of all the very firm conviction of common sense, that space is a place to hold things, a convenient receptacle for the physical universe. On that basis, of course, it is absurd to question the objectivity of space, because to do so would be to question the world of objective reality itself. If space is a place to hold things, of course things could not be here without it, and that is the end of the matter for an uncritical "common sense."

For many years the difficulties lying in wait for so unsophisticated an assumption have been apparent to philosophy. Space erected into an objective order, having reality entirely apart from intelligence and meaning, raises insuperable problems in the theory of thought. So long as the difficulties appeared to be in the realm of theory they were passed over lightly as among the vain cogitations of

tissue-weaving philosophic minds. So complete was the indifference to the theoretical aspects of the question that it has been no little shock to the scientific world to be told, from its own field, that the very necessities of a proper scientific understanding of such facts say as gravitation and light involve the assumption that space is nothing more nor less than the order of relation which exists between objects. Inasmuch as this relation can be gathered into uniform expression in the equations for the law of gravitation, it is stated that these relations cannot be infinite but are finite. An equation which is definite and which represents relations known to exist between masses in motion naturally cannot be taken as a relation with the quality of infinity. Space is a definite relation which exists between objects and, apart from objects or points to be occupied by objects, it is meaningless both for science and philosophy. Thus at a stroke the scientific consciousness is threatened with having to give up the age-long assurance of common sense regarding the independent objective existence of space.

If we think first of how the spatial idea arises in human minds, we shall discover that as a thought-necessity the spatial order is demanded by the discreteness of objective meaning. This may be a hard saying for some, so let us endeavor to make the meaning plain. We think all the objects of thought, whether material or mental, by the device of discretion. We have to separate an object out from the mass of objects in order to make it the subject of thought. Our first mental world is a world of nouns or names. The infant learns to name things before he learns the meaning of action expressed by the verb. Unless we can make a distinction between what we are to think about and the rest of the world we cannot think about it at all.

The very earliest consciousness rests upon this power of

discretion. We first realize ourselves as a unit of experience as over against a world not ourselves. The consciousness of the "me" and the "not me" is primary. Interpretations of experience can scarcely begin until the perceiving subject is able to discern a distinction between a self-world and a world less responsive. In the lower orders of life, consciousness seems to remain at this level. Consciousness without "otherness" would be difficult to maintain, even consciousness of a toothache. Thus we handle our world of objects by the power of distinction between them and between objects and ourselves. While there is a certain internal unity of function possessed by living organisms which is independent of our thinking, yet for the most part we determine our own units of thought. We establish our own system of discretion in accordance with the aim we have in view. Our thoughts may be given to jewels, to wheels, to springs, to watches as a whole, to a watch-using world of human beings, or to the sidereal movements of the universe as a whole, according to our desire. We thus acquire a world of discrete objects as the very necessity of thought itself, and in the process of intelligence we relate one phase of the general order of reality under the concept of space. Space is, of course, something more than the relation which our minds establish, because it is a relation written into the universal order—a consideration that must be taken up later.

Hence we hope it may be conceded that whatever reality may be granted for space as an intellectual value, it is primarily the form under which we relate objects to each other and to ourselves. The truth of this assumption is made plainer when we recall how our spatial idea is varied or modified by the time element involved. We use time as the measure of space. This may be objected to because some will insist that space is used as the measure of time. Be that as it may, there is an unalterable and an unbreak-

able connection between the two, though it does not seem justifiable to assert their identity as some have apparently assumed.[1] We state the distance of the stars in terms of the speed of light, and the years are but the time of revolution of the earth in its orbit, as the days are created by its axial revolution.

Everywhere our spatial ideas are modified by the temporal notion, which in turn shows a dependence upon the spatial. When the ox-cart is the only method of conveyance space takes on a practical meaning far different from that which it assumes when the "continental limited" has become a fact, and again the spatial meaning of our world is vastly dwarfed when a man can fly from New York to San Francisco between dawn and twilight. In a similar way is displayed the relative character of space, at least for meaning, when we increase the size of the telescope to bring the planets nearer and reduce sidereal distances. On the other hand, the increasing efficiency of the microscope revolutionizes our spatial conception in the opposite direction because it enlarges the opportunity of the mind for the exercise of discretion and opens a whole new world of meaning.

In a space of discreteness we have been dealing with a space of units, or with the relation of units to each other and ourselves, that is, with linear space. A recent writer makes the rather brilliant suggestion that the space of a leaf-eating worm is merely one of points. It has consciousness only of what is immediately ahead of it. It lives in a consciousness of one dimension only. He suggests that the higher animals, like the horse and dog, live in a

[1] Bergson calls time, bastard-space, and speaks of the discretion made in counting from one to fifty as requiring space in which the first forty-nine units may await the arrival of the fiftieth. Is he not speaking of the power of discretion rather than of space as it is ordinarily meant?

two-dimensional world, being able to locate various points on a plane. The dog in running sees the landscape moving past him fan-wise because he lacks sense of perspective. The end of the barn past which he rushes merely lengthens itself into an oblique addition to the side of the building past which he has run. The suggestion is in many respects interesting, though we can see no way of ever demonstrating it because there is no adequate means of determining the content of the animal mind.

Animal behavior is neither a sure nor a safe determinant of animal psychology for the reason that all our conclusions suffer from the necessity of reading into the animal mind, by analogy, the psychology of our own. That is the stubborn fact which militates against the truth of much that passes in current literature as animal psychology. The only basis on which it could be true is on the presumption that the animal mind is like the human mind, but this we know to be untrue to start with. It is only necessary to point to the language, social and political institutions, and ethical feeling of man to indicate the difference. The human mind possesses the additional power of reflection upon its own states of consciousness, which results in the gifts mentioned. It may be likewise that this added mental gift is the source of his consciousness of perspective, or three-dimensionality. It seems almost certain that three-dimensionality is something of an achievement. It requires, frequently, considerable of orientation, or mental process. Especially is this necessary when interpreting lines on flat surfaces as having three-dimensional meaning. We all know how difficult it is for the child in drawing to master the art of perspective. Frequently in viewing natural objects under new or unusual conditions one has to study a bit to get the depth into his landscape. The infant seems to arrive at this power by degrees, building it up by countless experiments with his world. At first

the roundness of the bright-colored ball is probably that of a flat disk which finally resolves itself into a sphere.

The power to perceive in three dimensions is then a power to master the world of objects under new aspects, and for the practical purposes of life this is all that is necessary. But there is no sound reason for assuming that other relations might not be introduced and mastered by the mind. This is what we do when we look at space from the standpoint of time. Time introduced as a spatial element does then give us a species of four-dimensionality. But time is not the only addition of relation that may be made to three dimensional space. The establishment of "frames of reference" for use in the measurement of sidereal distances is evidence that new relations of a spatial character may be added just so long as they have meaning which can be grasped by the mind. Some one at this point asks if all these conceptions are real. Do such complicated spaces actually exist? To which the answer is that they have a reality and an existence in so far as they have intelligible meaning, and are aspects under which we may truly consider spatial relations. Our notion of space grows out of the relations which arise from the possibility of motion and as motion becomes more complicated, giving rise to new relations, we can express it and master it only under the form of growing dimensionality. When we view space as the form of thought under which we express and master our world of relations, rather than as an objectively independent place to hold things, the seeming inconsistency of multi-dimensionality vanishes.

The old conflict then between mathematical and practical space passes away. Practical space for the average man is three-dimensional space. In it he can live, prosecute his aims, and achieve his mission. If it becomes necessary for the engineer or the astronomer to gather up the spatial relations of moving bodies, and if to do so he has to reckon

with their relative rates of speed, four-dimensionality has likewise become to him a practical space. It is practical to the use he has in mind. So there is not the incongruity between mathematical and practical space which is frequently assumed. It is a distinction or difference in ability to handle a further complication of spatial relations which is achieved only by reflection, study, and the power of abstract thinking.

With such a view of space, what does it mean to be present? Do we not by use of the term "presence" intend to indicate the degree of mastery we possess over the spatial situation. It is the statement of spatial relation and it is always one of degree. We are present in a building, however vast, because we have the advantage of the confining walls which furnish a "plane of reference." We are present in an open space in which we can be seen and heard, that is, bear tangible relations to our surroundings. We are present and meaningful "in the city," or in our world, from the standpoint of having a convenient "plane of reference," but being present in such a degree would be quite inadequate for a friend who knew no more than that and was seeking us. We would be much more present to our friend at the end of a telephone though we were two thousand miles apart. What will the term present mean when we are able to radio a friend by means of an apparatus we can carry in our pocket and can at the same time catch the expression of his face reproduced for us in an attachment to the same apparatus?

As the mental order of space arises out of the necessity for definable relations between objects and as the spatial implications grow with the power of the human mind to master these relations, the suggestion comes that the concept of space may, from the ontological standpoint, be due to the limitations of minds that can get only a limited number of relations at once. Just as the infant mathe-

matician has his budding mathematical powers educed through the use of illustrations until he is able to grasp the relation of the arabic symbol 4 to the representation of four apples, so we need the dimensional frames of reference to make meaning clear to minds that are limited in scope and capacity. If a privileged time should come to us when all relations could be grasped at once, our present spatial order might vanish altogether or at least be profoundly modified as an order of relation.

Lest we should be accused of assuming the unreality of space and of making it merely the creation of human intelligence and thus offend the common-sense mind, let us hasten to indicate our thought of the necessary place taken by the spatial notion in the Cosmic Intelligence. If this intelligence creates the universal order and this order is an order of relations, as we think we have seen, and space is one of the elements of the order of relation, it is as real a relation as any other. Its reality does not depend on our relating objects. The relation of those objects to each other and to ourselves is a part of the order of cosmic relations. We reproduce the meaning of these relations by an act of our minds, but we do not therefore create them in their cosmic essence, nor are we permitted to modify them. Thus it is that there is no ground for the charge of subjectivity in this definition of space. The further suggestion of the possible relation of God to the spatial order is a difficult one. This difficulty grows out of our incapacity to picture the relation of the spatial to the spaceless. If God creates space as a reality, is he not thereby holden of it. There is a sense, supposedly, in which this is true. Any artisan who makes or uses a tool, as a means of expression of his skill or will, is in a certain sense limited by the tool, and limited also by the work he does with it. It must be observed, however, that only by accepting such limitation does self-expression become

possible to him. It is a condition by which he grows to better self-expression and it is a condition which he likewise transcends. Even the Cosmic Intelligence might be worthily conceived as thus placing upon himself conditions which might be justified if there were a worthy end to be achieved.

But how can the spaceless get into space so as to have any relation to it? This seems an insoluble mystery and paradox. Nevertheless it is a mystery we all experience in a limited way. For the mind is not a spatial object; we can in no sense locate it. It outruns any boundary in spatial dimensions that can be set for it. It is not involved in the narrow limits of spatial relations that beset the physical brain and body but in a moment is off from present surroundings to distant sun and stars. Not only so, it commands these spatial relations, masters them, and sets at work within the spatial order streams of activity which last long after it has "flown to other worlds and other wars." So while the relation to space of the spaceless, or the space-transcending, is a mystery, it is also one of the facts of common experience. The window of our own limited experience is the point of vantage through which we catch an intuition of eternal truth.

SUGGESTED READINGS

BROAD: *Scientific Thought*, Chapter I.
MACH: *Space and Geometry*, pp. 5-37, 94-143.
OUSPENSKY: *Tertium Organum*, Chapter IX.
PEARSON: *The Grammar of Science*, Chapter VI, also pp. 179-208.
POINCARE: *The Foundation of Science*, Part II, Chapter IV.
WHITEHEAD: *The Concept of Nature*, Chapters IV, V.

Chapter XVII

INFINITY THE OUTLAND OF KNOWLEDGE

The nature of infinity "beyond human comprehension"—Mathematical infinity begins when computation becomes impossible—The infinity of physics deals not with demonstrable phenomena—Infinity of space is space either too small or too great to be commensurable—Infinity of time is merely an emphasis of human shortcoming—Infinity in religion is a faith in the scientifically undemonstrable—Practical value of the concept of Infinity—A convenient mental fiction in the approximation of practical results—Could not well get along without assumption of exact and complete solution of spatial problems—Infinite in religion is an application of the same principle—Cannot get an ideal view of relations of human life or perfectibility of the individual without the theoretical assumption that such is humanly possible—If there be another world or state of life it may be where infinity and perfectibility are at last realized—The notion of Infinity should never be used as a negative—Our failure to reach it argues our limitation even more than it does the nonexistence of infinity—Infinity and the Zenonian paradoxes—Not a practical, but only a theoretical, problem arising out of the rather severe limits of the human mind—We assume space as infinitely divisible when we can never so divide it—The paradox arises when we insist on applying the impractical—Could raise equally distressing paradoxes over the frictionless pulley—Relation of finite to Infinite—A verbal difficulty—All we can know of the Infinite is its manifestation in the finite—We do not throw away the known values of one side of the equation because we have to write on the other, *equals* infinity—The mathematician does not thus, nor shall we, so long as we are convinced of the practical values realized under the symbols, God, Freedom, and Immortality.

The relation of finite to infinite has been the standing puzzle of speculation since at least the days of Protagoras. The finite is that which we know and the infinite is what

is assumed as beyond knowledge. Such a definition will probably stir the most sluggish mathematician to expression. Mathematical science and particularly that of our own day has made the definition of infinity its special care. Still we are satisfied that though infinity may represent a very definite mathematical concept its existence is confined to the realm of rational notion and relation. It is above all a convenient device for the handling of ideas. Though its use be of the utmost practical value it is more or less a symbol for that which is really beyond computation up or down, for magnitude or smallness, or for expressing a law of variation. Keyser declares that by the term infinity "mathematicians do not mean that there is a definite quantity called infinity and that the ratio becomes equal to it when x (the divisor of n) takes the value zero; for when x takes this value, the indicated division becomes meaningless and the ratio ceases to exist; what the speech means—and it means nothing else—is, as said, that for x decreasing as indicated, the ratio becomes larger than any prescribed finite amount."[1]

Cantor makes the distinction between the proper and improper infinite of mathematics, using this means to distinguish between infinity as applied to magnitude and infinity as applied to the point aggregates or manifold.[2]

Too frequently we postulate the infinite as an active and important agent and set up a contrast, an irreconcilable conflict, between finite and infinite. Having thus made the two irreconcilable by definition we turn about and endeavor to bring to pass the reconciliation, not realizing that the problem we attempt is purely a verbal one. When we question the nature of infinity we find as its leading characteristic that it is always "beyond human comprehension." This characteristic view holds of the concept of

[1] *Mathematical Philosophy*, p. 303, *passim*.

[2] *The Theory of Transfinite Numbers*, pp. 18, 55.

infinity in whatever field it is taken. Mathematical infinity does not begin so long as computation is possible. It is only when the result has really gotten out of hand and beyond the power of expression that we write our mystic symbol. Neither does the infinity of physics deal with demonstrable phenomena. When phenomena are no longer within the field of demonstration and there are factors still needed to balance the equation, we put the burden upon the infinite. Theology is not by any means the only field that can be charged with a resort to infinity to provide for the unaccountable. Infinity of space is space either too small or too great to be commensurable. It is applied alike to the inch or a sidereal orbit, and it makes no difference which, simply because of its incommensurability. We dream of it as nothing, out of which, when we get enough, we can make something, but it is quite time we should realize the purely verbal character of the whole process.

Infinity as applied to time is likewise the emphasis of mental shortcoming. Infinite time is time multiplied to the point of incomprehensibility. The case is not essentially different in the realm of religion. We believe that we cannot account for a world that is beyond understanding by merely introducing the understood. This gap of inadequacy is filled up by the assumption of an Infinite. That assumption which religion finds necessary to religious solutions stands, however, on just as secure a footing as the scientific assumption and is in nowise inferior to it.

It will be seen at once that the concept of the infinite, for all that it goes beyond the reach of the understanding, persists in holding a place in the various fields of thought. One might think, if it is only an unknowable mental fiction, it might well be discarded. We must seek the reason for this persistence in the face of a possible charge of unreality. We shall find this persistence due to the

practical value of the concept. It may be a mental fiction, but it is a convenient mental fiction in the approximation of practical results. We could not get along, for instance, in mathematics or in physics without the assumption of the possibility of exact and complete solution of problems. A frictionless pulley has never yet existed, but we compute the law of the pulley as if a frictionless pulley were a fact. We know that our result is only an approximation to the actual fact in any given case, but it is easier to assume the fiction and allow for the individual instance.

There are many similar fictions which justify themselves in science, such as conservation and transformation of energy. These are not justified by scientific demonstration, indeed cannot be, yet they have so practical a value that computations would be at an end without them. The Infinite in religion is an application of a similar principle. We cannot get a proper view of the relations of human life, nor of the highest achievements for the individual, except by assuming the perfectibility of human conduct. Perfection in conduct here takes on something of the character of infinity. Like the assumption of the possibility of perfection in mechanics, the dream of completeness is necessary as a working basis. But not unlike his mathematical brother, the religionist receives on faith the concept that actual infinity is the profoundest of cosmic realities. We have to make the assumption that perfection is possible, a goal to be striven after, in order that life may approximate as nearly as possible the perfect ideal. If we take a lesser ideal, the result would fall irretrievably below what it otherwise would. We are under religious obligations to aim at perfection, just as the scientist is under obligations to assume a perfect law for pulleys, and the mathematician to spin his equations as if they could be perfectly realized. The materialist has no more reason to slur the religious man for the perfection of his ideal and

his failure to realize it than he has to charge the physicist with fraud because he has never yet been able to build a pulley or a machine that turned in the amount of power specified in the equation. For the religious man at least it seems true that there is another world or another state of life where infinity or perfectibility may be realized.

The notion of infinity should never therefore be used in a merely negative sense and for purposes of denial. The failure to grasp infinity is not a proof of its non-existence. Or rather the failure of human comprehension in dealing with those factors for which the notion stands should not lead us to assume that it represents no reality. Our mathematical friends would surely and justly resent the implication that mathematical infinity represents nothing. The physicist would not be far behind if we should attempt to deny the reality which he seeks to express under that term. We should be through with the fallacy that nothing exists which we cannot comprehend and explain. Just as in the scientific use of the term we cannot safely enter a denial of its reality so must we likewise grant it place in theology. We cannot argue its non-existence, but must rather and more surely find in the notion the strict and oft embarrassing limitations of finite knowledge.

The classical example of the problems arising out of the assumption of infinitude were furnished many centuries since by the Eleatics. Scarcely a schoolboy but is acquainted with the paradoxes of Zeno whereby it is proved through the infinite divisibility of space and time that Achilles would never overtake the tortoise and that the flying arrow remains forever at rest. These problems seem with some never to have been satisfactorily settled, for we find them still the subjects of discussion in books and philosophical journals.[3] The problem, of course, is

[3] Sc. *The Personalist*, January, 1924, "Achilles and the Tortoise" by H. Wildon Carr.

never a practical one. It arises only because we try to compel a convenient fiction into the forms of reality, and too rigorously press the severe limits of the human mind.[4] We assume that space is infinitely divisible when it is not practically so. Then we erect our definition into reality and cause the impossible to appear in the arena as the enemy of the possible. Such a battle can only be a logomachy and it is weighty with meaning only for such as are deeply moved by a form of words. The paradox arises from our insistence upon treating the impractical as if it were practical.

We could raise equally embarrassing questions regarding the frictionless machine and a hundred other devices of life by which we assume the perfect in order to get the best possible. All such verbal difficulties are compelled to fall before the practice of life. For life is never lived under ideal conditions, and we early learn to conform to the practical, to accept approximations. Now and again some one arises from our midst to say that all approximations are of the Evil One, that we must have perfection or nothing. We have with us still those of the order of the civil engineer who, in his agony of exactitude, demanded that the tailor should use the transit instrument to survey him for a suit of clothes, but such is a pedantry which the

[4] The writer is not unmindful of the ingenious devices of one to one correspondence in parallel infinite series whereby the paradox is dissolved. It may be due to his stupidity but he is not yet convinced that such a solution of the famous paradoxes is more than a clever begging of the question. He does not deny that such a solution may answer the requirements of mathematical demonstration but he cannot see that it bears any relation to the practical solution. If some one should remark that the paradoxes did not arise out of a practical situation and are therefore not to be answered practically, the reply would be that it seems rather futile, about as futile as the working of puzzles, to spend much anxiety on problems that do not bear at some point on life.

world finds difficult to take with seriousness. In the actual world there is room for much that is fancy, for much that is dream, and forever that which begins by being only dream ends by finding its way into life and becoming intensely practical. It is impossible to say what life would be worth without the realm of fancy, which opens new vistas before the human mind and makes the outland of the infinite less mysterious as it pushes back the boundary of the known.

In closing this chapter it is scarcely necessary to add that the difficulty of the relation of the finite to the Infinite in religious thought is likewise a verbal difficulty. In practical living it can be experienced rather than explained. As a practical thing it has been found desirable that man should live as if there were an Infinite. Out of such an assumption many characters of history have arisen through toil and struggle to such masterful approximations of living perfection as to stir our wonder and feed our confidence. We can never explain how the Infinite can manifest itself in the finite nor how it can create or sustain it. But that is because, as has already been pointed out, we assumed the incompatibility of what we call the Infinite in our very definition. If the Infinite is that causal agency that outstrips our knowledge and understanding, there is no reason for assuming that it cannot manifest itself in the finite. What we call the finite may be but that limited part and parcel of the Infinite which is open to our understanding. At any rate, all that we here know of Infinity is that which achieves expression in the finite. Of this side of the equation, the known, we have certain undying certainties, concerning which, mathematical-wise, we have to write, *equals infinity*. We do not intend to throw away the known values because we stand helpless before the other side of the equation. The mathematician does not discard them and neither shall we so long as we are convinced of

the practical values which are to be realized under the convenient symbols of God, Freedom, and Immortality. Our faith is justified for the life that now is, and we seize upon these ideas as the most potent realities of the life to come.

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Chapter XVIII

RELATIVITY IN KNOWLEDGE AND IN LIFE

Natural phenomena absolute but our interpretation of them is relative —Difficulty from considering interpretations absolute—All knowledge is a knowledge of relation—We begin by relation to self—our universe egocentric—Relativity not incongruous with abiding certainty of moral or other principles of truth—Truth in any concrete application cannot be taken apart from its relations and consequences—Illustrated by passing scientific hypotheses, political utopias, and particular religious truths—Relativity a difference between the static or dead, and the living or growing—Relativity can alone be affirmed of a changing world—Absolute truth only of a finished or absolute world—Relativity a necessary postulate in a world of change and in a world of life—Relativity and the static concepts of life—The concept of life, change, and relativity dependent upon creative personality—Inspiring elements in the view of relatively growing truth, world, and individuals.

Whenever the universality of the principle of change has gained headway in philosophic thought, it has brought in its wake the postulate of relativity. With the early Greeks relativity was applied to the criteria of truth and affected particularly the field of practical concepts. Such values as right, truth, justice, and virtue were held to have not a normative meaning but were considered as relative to the time, the occasion, the desire, or the happiness of the individual. The almost complete application of relativity to the field of values may have been largely due to the as yet undefined or unrecognized truths of perception.

As Heraclitus unsettled the static thinking of his time with the assertion of universal change and was followed by the relativism of the Sophists, so a somewhat similar movement has been going on in contemporary thought.

With this difference, however, that the metaphysical, perceptual, and physical fields of thought have so outgrown that of value and conduct that the present application of the term is predominantly applied in the fields of physics and metaphysics, or to concepts which have to do not with conduct but with understanding of the physical world. As science and radical empiricism have revived for us the concept of change as applicable to our whole world of experience, so again as in ancient time, though in a different sense, we find the concept of relativity necessary to our view of reality. Relativity and the philosophy of change have certain natural affiliations of interdependence.

Relativity of knowledge grows out of a certain relativity which we experience in life but it never arises in naïve thought. To common sense all natural phenomena are absolute, standing independently and in their own right. Likewise common sense endows our interpretations of nature with the same absoluteness, which is false, and in so doing raises for itself an insoluble problem of error. Whatever the physical world may be in itself, which is a question for metaphysics, it is certain that all our knowledge of it, partakes of the interpretative element provided by the mind. Though we do our best we cannot get away from this fact. Our knowledge is, at most, an interpretation of sensations, and an interpretation dependent on a very limited experience and outlook. Apperception, what we have already learned and know, to say nothing of that vaster area of what we think we know, with its predilections and prejudices, all these things, in the very necessity of the case, enter into even the commonest perceptions. In this way we frequently find knowledge defeating its own ends. Sometimes the tyro in investigation makes discoveries that are withheld from the eyes of the better trained because he has not the barriers of an erudite knowledge to hide from him obvious facts. That such a

situation can ever arise is due to the mistaking of interpretations, which can never be more than relative, as possessing the absoluteness of the phenomena themselves.

In a world of change then and in a world where we are dependent upon interpretative acts of fallible human minds, our knowledge can be only an interpretation of relations. First of all we begin our store of knowledge under the form of relation of the "not me" to the "me," which is not only the simplest, but the fundamental, knowledge. Our universe becomes the subject of our knowing only as we find in it certain relations to our own self-consciousness. The world we achieve is an egocentric world. It may pain us that this is so, but that same anthropomorphism which we use as a slur upon the theological conception of God is equally applicable to our scientific view of the world, in fact, to our most boasted knowledge.

The relational element in knowledge is not confined alone to the necessary viewpoint of a mind in relation to the universe. Facts themselves, or phenomena, cannot be taken apart from the world of general relations. Individual phenomena are distinguished and isolated for purposes of observation and study, but there is danger in the very process of isolation that we shall overlook the most important item of relation. Things are what they are only in and through general relations, and to abstract them from these relations is in most cases to miss the truth very largely, or altogether. A blind trust in the possibility of knowledge apart from relations has led scientific thought into many pitfalls and is responsible for the relative neglect of philosophical outlooks.

Any attempt to get at reality in the field of nature is an endeavor to interpret certain cosmic activities. In the realm of science we know sources only through activities which make an impact upon the senses which we can measure and weigh and compute. We can describe the activities of

nature and their effect upon us. What nature is in itself or apart from these activities is a problem for philosophy. Science then is nothing more than a description of the activities of nature which presumes that those activities will continue in a uniform manner. When a phenomenal series has occurred in a certain order a thousand times, we feel safe in depending on the uniformity for the thousand and first time. But this is description and hypothesis. There is not present any knowledge of the nature of reality itself but only of the activities of a related world.

It may seem to many that so thoroughgoing a doctrine of relativity removes all assurance from the world of knowledge; that it is incompatible with the existence of any norm or standard of truth. The solid world seems thereby reduced to a fluidity that is embarrassing to any thought of permanence, or of certainty. While the facts may seem disconcerting, yet relativity has about it an unanswerable appropriateness. It makes toward the wider vistas of reality. Our reduction of the universe to a static condition has no correspondence with fact; it is done only that we may for the moment fasten attention upon single phases of existence. We have narrowed our viewpoint for a better understanding and have unfortunately forgotten the larger whole into which our single and limited fact fits. We overlook the truth that the single fact cannot really be understood out of relation. Relativity restores to us these larger relations. It is not incongruous with abiding certainty of either scientific or moral principles of truth.

Truth in any concrete application cannot be taken apart from its relations and consequences. If we confine ourselves to single aspects, it is not that we may rest there in proud confidence that we know all; it is only that we may carry back the single fact to replace it in its wider world of relations. The failure to do this has led to many perversions of truth. Men have not, as I think Mill stated,

made "reasonable extension to adjacent cases." Scientific laws have been announced as "discoveries" which were later found not universally true. Political and social utopias have been invented which entranced the mind of the inventor, but fell under the merciless requirements of practical life. Theologies have arisen and passed away under the urge of passing phases of what was but partial truth. The reason for this outgrowing of partial truth is that truth has been viewed in too narrow an aspect. It was sought in a single direction: it was not sought in its wider relations. Naturally, inasmuch as the progress of the human mind brings us into wider and wider contacts, discovering to us new and unsuspected relations, our truth constitutes not an absolute but a changing and growing knowledge. To a geocentric world and civilization, the Ptolemaic astronomy presented adequate and satisfying truth. Through the long centuries astronomers busied themselves with learning the relations of the heavenly bodies to a standstill earth. It was not that the computations of Ptolemaism were incorrect or untrue. From the standpoint assumed they were true and they had very much of ascertained fact to contribute to the new astronomy. Then the discovery came that to view the sidereal system from the standpoint of an unmoving earth was to see things from too narrow a set of relations. The transfer from geocentricity to heliocentricity greatly widened our knowledge of sidereal relations and introduced us to what became in many senses a new world. It is not inconceivable that new sidereal frames of reference might be captured for knowledge which will eventually make even the Copernican astronomy inexpressive of the vaster relations of which our universe is a portion.

Our objection to relativity rests upon our claims for an absolute knowledge. But, as has already been indicated, absolute knowledge of a growing or changing world is not

possible. The item of relativity is thrust upon us by the very necessities of thought, if we are to look upon our world as a universe of change. Relativity only marks the distinction between the static, or dead, and the living, or growing. It does not indeed change truth but it changes our grasp of it. It is set forth as a concept, in order to admit all the factors of knowledge. Having once grasped the wider relations of knowledge, we cannot go back to the lesser order. We could quite as easily revert to the Ptolemaic astronomy. It is as true as it ever was and, as far as it went, it presented truth, but it became inadequate the moment the wider relations were discovered. Absolute truth is only for an absolute or finished world. It is not appropriate to man in his incompleteness of realization, either of knowledge, or of life. Neither is it applicable to a world of change.

Thus relativity is a necessary postulate of a world of change and of life. The static concepts under which we attempt to seize and to explain reality are simply inadequate for the explanation of a world of ever-expanding relations. And the static concepts of the world have ever proved to be the enemies of progress. The only reason for assuming them is because they afford a certain mental comfort and satisfaction. They are dogmatic assumptions and they make the scientific investigator slow to arrive at new discovery. They keep him explaining by the use of worn-out formulae while he shuts stubborn eyes to the discrepancies in his equation. He assumes the old formula must be correct because it explains so much. Such dogmas as "conservation of energy" must be saved at all costs. He has the common human failing of fear to break with the immediate past while he exalts his own break with an earlier past. Yet there is no special recrimination against the scientist. This deadweight of static concepts is the delaying load which keeps us from attaining wider vistas

of truth in every field. It lights the flames of the martyrs in the hard fought advances of political, social, and religious understanding. It works forever as the ally of those who wish to be at mental ease, of those who wish to preserve a reputation for knowledge, of those who are too lazy to think, of those who dread *every* innovation, of those who look on life as a settlement and not as a pilgrimage, of those whose minds are at home only in assured truth, guaranteed by authority. While such as these seem ever to be in the place of power over the world of thought, while they have the authority, they yet are impotent for the future. They are ever in danger from revolution. They sacrifice their victims upon the scaffold of wont, usage, and authority and are yet powerless to enforce their mandates, discovering too late that "that scaffold sways the future."

The concept of relativity, entrancing as it is, has not power to stand as a single and unsupported assumption. With the universe as a complicated system of constantly changing relations, there must be complete coördination. Complete coördination in such a system is inexplicable and even unthinkable except upon the supposition of a directive Cosmic Intelligence. As change is inconceivable on the part of that which is altogether the subject of change, so in the universe if change is to have any meaning, if it is assumed as the expression of a creative evolution, it must also be seen from the standpoint of intelligent source. It is only as some self-consciousness endures somewhere throughout all changes that we can achieve a permanence of meaning sufficient to knit together the varying processes and relations that compose the world. If one discovers a machine carefully picking paper off a pile, one sheet at a time, passing it between rollers, printing, folding, and preparing it for mailing, one would scarcely attempt to ascribe such delicate, coöperative, and purposive relations to an

accident. The very existence of intelligible relations insistently demands the existence of intelligence in the process. There can be neither change, relation, process, nor evolution except to an intelligence which survives and transcends the whole process. Our concept of life, change, and relativity is metaphysically consistent only with the assumption that behind all is Creative Personality.

The discussion should not be closed without a word of consideration for the inspiring elements which are present in the view of relativity. It fortunately removes the emphasis from a paralyzed and static world, an intellectually deadening concept, to one of growing truth and expanding intellectual horizons. It sets its face toward better understandings and discoveries. It emphasizes a growing world and impels men to grow with growing knowledge. Thus it transfers the thinking and the work of man from death to life. This mental attitude in itself, once it is fairly achieved by society, will be a mighty impetus in the direction of progress.

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Chapter XIX

THE RELATION OF QUALITY TO QUANTITY

Struggle to refer quality to quantity due to the scientific demand for commensurability and the misconceived exactness of mathematical physics—An undoubted relation between quality and quantity—But the one must not be mistaken for the other—Though that relation be definitely settled, the real question as to the interpretation by the mind in terms of quality remains—Quality cannot be taken apart from relations—Quality not mental alone, certainly not objective; arises out of a realism of object with conscious subject—Modern tendency to interpret mass and extension as force—The deadlock can be cleared only by the assumption that these forces are the manifestations of intelligence interpretable by intelligence—In human experience this intelligence is but partial.

The idealistic claims for the purely intellectual character of qualities would place them forever beyond the reach of scientific investigation. Since science must deal with successions in phenomena and cannot without becoming unscientific pass into the question of efficient causation, naturally enough such a limitation is resented by a science which seeks to set up its own exclusive claims for the knowledge of reality. The conflict is in large measure due to the extreme position of either party. There is, however, a more potent reason for this antagonism. As we have seen, phenomenal knowledge is everywhere not a knowledge of essence but of activities. These activities of nature representing themselves by the manifestation of force can be measured. We cannot tell what gravitation, electricity, and light *are*, we can only measure their effects. To learn what is possible by the study of these effects is the peculiar task of the scientific investigator. To side-

track him to other considerations is to lead him away from his field. As exact measurement is the field of his investigation, he seeks to apply his method wherever possible, and so is bound to see his world from the limited standpoint of phenomenal effect.

The protagonist of exclusive scientific method is overcome by the assurance that whatever cannot be disclosed by his empiricism has no existence or, in other words, he has complete confidence in the competency of his method. This assurance on his part is greatly augmented by a blind trust in statistics. To any mind not logically conscious of the wholly symbolical nature of numbers, they represent an exactness which is had nowhere else. In truth, mathematics itself is the only sphere wherein numbers do represent exact information, and this because we take them only within their own system of relations and do not attempt to make their application extend to practical life. What we make exact by definition remains so throughout our computation if we keep true to definition, but in life there are so many factors involved that mathematical enumeration is the smallest and often the least important element involved. No illustration is more apt than the time-worn example of the logics, wherein it is presumed that if one man could dig a well in ten days, ten men could dig it in one. The mathematics is, of course, perfect, but worthless as overlooking the fact that ten men would, in that kind of a task, be in each other's way. What is true with the digging of the well is actually true not only where the human element is involved but also in the broad field of mechanical physics. In the law of the pulley, for instance, the numerical exactness of mathematical physics is deceiving because it is based on the fictitious assumption that pulleys are frictionless, and at best is a close approximation to the practical result attained. But this is the necessary method of science, inasmuch as it must get its facts into

commensurable form before it can do very much with them. This is not to be deplored so long as it keeps to the recognition that what is objectively commensurable in phenomena is very likely not all there is about phenomena, and may even be the least important.

That many qualities can be expressed in terms of quantity is an indubitable fact of experience. The relation of the short string and the increased speed of vibration to the high note, and of light waves to differences in color, are familiar instances. An ingenious device has been recently perfected whereby movement of the air caused by the voice or other instrument is registered in terms of light, and pitch and timbre are caused to register themselves. This is sometimes erroneously called the photographing of sound, and a considerable impression is made upon the lay mind by thus expressing it. A little reflection, however, shows that here as elsewhere we have caught a commensurable relation, and have set it before us in terms of measurable effects. We have not photographed sound at all, but the effect of sound agitations on a disk, transmitted to a pivoted, illuminated mirror. The reflection from the mirror is what we actually photograph. No doubt very great interest is created by such an experiment and useful information is to be had, but there is no reason why one should dream there is any kind of identity between the thing and the measurements in which we express effects. It would be quite as intelligent to imagine an essential relation between potatoes and bushel measures because, in practical life, bushel measures are the terms in which we find it convenient to express potato values.

Whatever relation we may be able to establish between quantitative and qualitative values, our problem remains unsolved outside the realm of meaning or intelligence. Whatever else the eye and the ear get from the natural phenomena of sight and hearing, they do not get the experience

of wave length or of vibration. Whatever the mind gets is translated immediately into terms of meaning or quality. These qualities can never be completely expressed by any terms of measurement we can achieve. Redness is not expressed by the mathematical terms of vibration frequency, nor the musical note by the arabic numerals expressing its mathematical measurement, nor the love of a Dante by discovering the terms of the chemism which took place in his brain at the first sight of Beatrice. The relation no one would deny, but the identification of quantity with quality no one with any realization of human values could accept. Even though the actual numerical relation in effects produced by human emotion and in human perception of qualities be established, the real question, as to the interpretation by the mind in terms of quality, remains.

The amazing thing about quality is not, as is so often assumed, our ability to line it up with commensurability. That is amazement at our own cleverness. The amazing thing is that it represents so much more than can be commensurably expressed. It is exactly in the things that go outside of any power of scientific expression that the principal values lie. We could indeed get along discerning red from green, and the keynote A from the keynote G, even without knowing the mathematics of the experience at all. This is because quality cannot be divorced from meaning and from relation. Every perception has at least two characteristics; it is first of all a mental act, and, second, a mental act dependent upon the reality of certain relations. Qualities, therefore, cannot be taken apart from their relations. They cannot be either mental alone or objective alone but arise out of a realism of object with conscious subject. It is this characteristic of perception which Bergson recognizes when he affirms as necessary to every perception, the putting of ourselves into things by an act of intuition.

The trend of modern physics seems to be increasingly toward the interpretation of all qualities, even those of mass, extension, and impenetrability, as measurable activities of an atom which give the impression of these qualities simply by variations in force. This atom is really taken as a center of forces. Thus does the physicist seek the reduction of all physical manifestations to a common denominator. This assumption only puts in clearer light the fact that perception is a matter of relations, and emphasizes the part which the interpreting mind must take in every perception. Some have long held to the reality of everything but mind and have not seen the absurdity of denying it reality and at the same time boasting of practical omniscience, but a better day is nearing and one which promises to be far more profitable both to science and to philosophy. It may also be a day of better mutual understanding when the scientific and the philosophic worlds will not stand over against each other as bitter and uncompromising enemies, but shall be found mutually helpful, each providing in its own field the contribution to human understanding which neither can provide alone.

What then is the mysterious relation between quantitative change and qualitative difference? Since the days of Democritus the two have been declared identical, but the identification continues to be unconvincing though we have multiplied examples a hundredfold and have supposedly, at least, established the principle as one of the surest axioms of science. Why is the mind unconvinced in the face of such authoritative pronouncements? The reason seems principally to be this: the mind is directly conscious of qualities and mostly unconscious of any attending quantitative factors. We cannot by stating the fact reduce to zero the intellectual wonder at such a leap from quantitative fact to qualitative interpretation. The mind is correct in its feeling. We can cross the gap only

through a higher synthesis. If the quantitative forces are to be held as grounding the qualitative fact, it would seem to be because their activities spring from Creative Intelligence and are thereby invested with intelligibility. The same intelligent ground can be conceived as working in both objective nature and subjective personality.

It may somewhat justly be charged that such assumptions but deepen the mystery, but the seeming simplification of the problem by arbitrary identification is still worse, as it does violence to intelligence itself. In the final analysis our world can be held logically intelligible, and the deadlock between quantitative fact and qualitative interpretation can be cleared, only by assuming that these measurable forces are the manifestations of a Cosmic Intelligence, interpretable by intelligence only. They have order; they have uniformity, which uniformity when widely enough discovered we express under the term natural law. In human experience, intelligence is but partial, and human effort is disclosing a wider and wider field of knowledge. Every scientific discovery is a help to this end, and every advance of spiritual understanding makes more profitable for man the control of natural forces. Large powers over nature if untempered by spiritual and moral achievement become a menace not only to the life of the race, but to the advance of scientific knowledge itself. If there is to be genuine well-being, knowledge and life must go hand in hand. Any assumption of hostility between knowledge and morals, between science and religion, is a vicious assumption which, from whatever side it is made, is hostile to life, to civilization, to science, and to religion.

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Chapter XX

UNITY IMPLIES INTELLIGENCE

Assumption of unity difficult to explain, impossible to escape—Unity considered as a mental act—Strong sense in which it may be looked upon as a unity set up by the mind, our way of looking at things—We determine our own units—Unity as merely mental is not adequate because we perceive a universe whose mutually exclusive units are parts of a higher unity—The coördination of the world and of life—Unity must be a fact to enable us to get on—A higher unity possible only from the standpoint of source—Unity of this kind implies intelligent purpose in the source—Unity implies coöperation and coöperation implies intelligence and ends—We must conclude then that unity of any sort which includes change depends on a unifying intelligence—The impossibility of an absolute pluralism—Even if I make my universe, I do not make its relations to myself.

The assumption of unity seems to be necessary to all understanding. The unity of the universe and its laws is fundamental to scientific thought and investigation, even as the unity of the moral relationships is summed up by religion under the conception of a God. Just how we come by this sense of unity is difficult to explain, but the assumption is impossible to escape. The universe is one of intricate relations. There are relations between it and thinking minds which lay the basis of perception. There are relations between the objects of perception which lay the basis of scientific understanding. There are relations between thinking minds which ground our social understandings. There are relations between thinking minds and creative cause which base all religious concepts. Neither for practical use nor for the understanding is there any place for a world out of relations. Often we look upon

the relations as something to be taken for granted and in no sense demanding explanation. It is so easy to overlook the hypothetical nature of our fundamental assumption. It is the one assumption without which we cannot scientifically proceed, and so we accept it as a necessary fact. Both science and theology have shown a great impatience against any who dared to call attention to the dogmatic bases on which their schemes were compelled to rest. Theology has been in for a considerable airing at this point, but science is still in the moment of its power and, in spite of the work of such men as Pearson, Mach, Poincaré and others, even yet with some it is still characterized by the feeling that it can treat its critics with contempt. No assumption so universally necessary to knowledge, however, can arise without some ground of necessity in men's thoughts. Our world of relations can be grasped only as a unity. The knowledge of the varying relations of the world is the beginning, continuation, and end of knowledge. The wider inclusions we can make, the larger and more useful are our conclusions. We cannot conceive our world apart from this unity.

There is a very real sense in which unity may be considered the primary assumption of thought and knowledge. This raises the question: Is it a unity which the mind itself makes? There is a sense in which unity may be looked upon as set up by the mind. It may be truly considered as the way in which we look at things. This type of unity would be a unity of aspect. The world would be seen entirely from the standpoint of how it looks to the individual. The viewer becomes the center relating the world of objects to himself. They are related because he relates them or sees them under the aspect of relation to himself. In such a case it is difficult to see how such a unity could avoid being merely the illusion of the per-

ceiving mind. This seems to us the peculiar difficulty of a radical pluralism.

It is true that according as we will we can consider either the unity of the world or its dis-unities. It is true also that we can determine our own units. We can look upon a watch as an unintelligible conglomeration of meaningless parts, each very much unlike the others, or we may attempt to synthesize our knowledge of the mechanism by classification of its similar parts. That is to say, the watch may be considered from the standpoint of the number of springs, jewels, cog-wheels, and casings, or the unit of our consideration may be the watch as a whole, which means the watch in all its relations. We can for the moment turn our attention upon a particular wheel which may need mending, but the more we consider our unit out of its relation to the whole watch, the less of understanding do we have with regard to it. This ability of the mind to limit its thought to particular units, and to restricted relations, or at will to introduce wider relations, is, in so far as mental theory is concerned, a convenient device by which we are enabled to arrive at and to handle knowledge. It is a device of the understanding.

Would we therefore be justified in the conclusion to which radical pluralism leads, namely, that unity is an unreal product of the imagination alone, or with the extreme idealists that it, as well as all reality, is only a manifestation of the Absolute? While it is true that we can consider as units any particular phase of reality upon which we wish to bend our attention, it is also a fact that there is a unity present which at least our minds did not make. This leads us to consider another type of unity—a unity of being together or happening together. Such would be a coördination entirely mechanical. Causation would be such influence as one strand in a pile of excelsior might exert upon another in giving it a certain configu-

ration. The way one particle lies causes the position of the other. The futility of the concept becomes apparent when we reflect that we might with ease reverse cause and effect without injury to our argument.

We seem so far to have two types of unity, a unity of thought which is the basic postulate of our understanding, and a unity which exists in the relations of the objective world. How are we to get these two unities together or to show how they correspond to each other and to reality? Can a unity which is made by the mind have anything corresponding to it in the nature of reality? This would seem possible only upon one condition—the condition of their common source. If mind is itself a phase of nature and if also the converse is true that nature is a phase of mind, then there is reason why the one should truly represent the other. Then and then alone could the unities which appear to be necessary to rational thinking be true. Then and then alone could the unities which appear to be true in objective relations have an intelligible meaning. The unity must then be a unity which proceeds from a higher source. It must be a unity which is present in nature and in intelligence and also in the first cause of both. It must also be a unity which contains the element of end or purpose. To recur again to the illustration of the watch, the unity of relation there discernible would be impossible if part did not fit accurately to part to make up a time-piece which would fulfil the purpose of a watch. So, in the separate but never disparate unities of the objective world, there must be present a purposeful unity of relation to justify our assumptions. Unity as merely mental is not adequate. We need a universe whose mutually exclusive units are parts of a higher unity. Thus it is that we are enabled to arrive at a coördination of the world and of life. Unity must be a physical as well as a

mental fact to enable us to get on. Otherwise our world would be only a meaningless illusion.

When we hit upon a purposeful unity, it seems as if we might for the first time be approaching a definition in keeping with our real concept of unity. Reflection will with most, we believe, deepen the feeling that the only genuine unity, the only kind worth consideration, is that unity in which the various parts are coördinated to some particular end or ends. But any unity which shows coördination for an end is expressive of intelligence in the cause which creates it. Such a unity demands also an intelligence in somewise transcendent to it which views the resulting order as its work. A unity of this kind, a unity of nature and of thought in more or less strict correspondence, calls for intelligence and purpose in the source of nature. The rule of the sufficient reason, that a cause must be adequate for the effect, demands the supposition of intelligence in the primal cause, if there is a final cause. Such a metaphysics is necessary not only to ontology but to a rational theory of knowledge as well.

Unity in its deepest sense then seems to imply coöperation in relation to ends. This must be extended to mean coöperation not only in physical relations between things themselves but likewise between nature and mind, and still further between nature and purpose. It is only by some such supposition that we can end the futile deadlock between substance and function or entelechy which we find in any mechanical system of causal explanation. The chromosomes of dandelion protoplasm look forward to a world where winds can be used for purposes of propagation and they provide for the parachute of the future seedling. It is only an evasive equivocation to lay that foresight to influences of selection before selection has been even in existence. It should have been seen long ago by the hardiest advocates of materialism that the assumptions

of survival and selection were mere tautologies without power to account for anything. Only a stubborn and a blind adherence to attractive and delusive scientific dogmatisms could have kept to such a misleading course. Whatever one may think of teleology and however hostile one may consider it to the scientific spirit, to shut one's eyes to the necessity of affirming intelligent purpose in first causes is to commit one's self not only to an untenable logic, but worse. It is to commit one's self to partial and inadequate understanding of the world of relations. It must not be presumed that one is thus necessarily committed to a thoroughgoing hostility to science. Such need not be the case. The scientific disparagement of teleology in nature is not due to unworthy motives in the scientist. It arises from the best possible motives, the most scientific of ends combined with that faith in science which is largely responsible for his effectiveness as a scientist, namely, his sublime belief in the ability of his method to compass all explanation. This is his weakness and his strength. It becomes the source of new discovery and it also commits him to a dogmatism which may become a menace to future discovery. It is exactly analagous to the narrowness that pervades the mind of a religious fanatic. His narrowness of concept makes him energetic with conviction, but the deeper his convictions the less fitted he is to understand life in the full round of its implications.

Scientific thought is in wide circles suffering from this ingrowing character at the present time. It sorely needs the refining purification of caustic and discerning criticism, not that it should be turned from its present investigation nor that it should particularly change its methods of investigation, but that it might really possess that breadth of tolerance its devotees presume and give up its claims for omniscience. By this I mean that science should make way for realities and understandings outside of its own

field of investigation. It should give up the fatal pursuit of knowledge which ends by denial of human values. The most conspicuous example of this in our time is perhaps the "new" psychology which has been quixotically made to deny human freedom and with it the reality of moral responsibility.

Not only does unity which shall include nature and mind demand intelligent purpose in a common source, but the demand is greatly intensified if we look at the universe as a process of change. Our coördinations are not the coördinations of a static world eternally fixed. They are coördinations in action; they are coördinations that are constantly arising in new combinations, if evolution is seriously to be considered a fact. In any sort of unity that includes change toward a goal there must be a unifying intelligence constantly coöperative. Furthermore, this intelligence cannot be abstract, it must be concrete and personal. It must have a consciousness of itself in relation to its creation and be able to view these changing relations under the aspect of time. Only such a personality would be able to transcend and master time in the pursuit of cosmic purposes. We must then, if our explanation is to be adequate, conclude that unity of any sort which includes purposeful change depends upon the activity of a continuously existing and continuously creative unifying Intelligence momentarily erecting the world of changing relations into reality.

An absolute pluralism, in the light of all the facts and of the necessities of thought, would thus seem inadequate. Unity is necessary to the simplest perception, for perception involves the correlation of perceived object and perceiving subject, that is, if we are to consider perception a gateway to knowledge. As we go along the highroad of growing understanding, the amplification of unities must proceed. Even if I make my universe I do not make its relations

to myself, and the platform from which I start must furnish sufficient standing room both for the world and the self. A thoroughgoing pluralism, by denying the correlation, leaves me without either of these. I am compelled to assume a unity which I deny, and my world falls apart and falling apart is committed to an ever advancing ignorance. One is forbidden at last to make any assertion of knowledge concerning either his world or himself. For knowledge of any kind is an assertion of relations, and relations can arise only through unity. It is true that the dominant type of pluralism has been aware of this unhappy possibility and has sought to make a virtue of its failing by pinning all faith on the assertion that *relation is the fundamental reality.* For some at least the claim will have greater force when such an assertion is made not on faith but carried back into a true metaphysical or ontological ground. Perhaps it does not satisfy many minds to be assured that there *are* relations; most of us desire to speculate, with at least a show of reason, upon what might be reasonably presumed to be the ground of those relations.

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Chapter XXI

SELF-CONSCIOUSNESS AND THE SELF

Profound and practical nature of the problem of self-consciousness—Why consciousness cannot be a sum of sensations—The element of time—Sensations never reproduced—Why it cannot be a sum of conscious states or of states of consciousness—All states of consciousness have to fall into relation—The self-referring nature of all experience—Requires a consciousness of duration which is not found in the states themeselves, and which is something more than memory—We are then reduced to the dilemma as to whether selfhood is the function of bodily activity or whether the bodily functions provide the field of self-activity—What we call the ego is built up of conscious reactions to the physical world without and within the body—Relation of self-consciousness to a normally functioning body—Whatever limits bodily freedom is found to be a limit upon self-consciousness—Is the soul then dependent upon body and does it cease with it?—The body as the organ of self-consciousness necessary only to the present temporal and spatial order—Self-consciousness as an entity—The case of Miss Beauchamp and the splitting of personality show that unity behind separate moods is the fundamental fact of self-consciousness—Only through this that normality and sanity can be recovered.

The profound and practical nature of self-consciousness has never been widely understood nor even generally appreciated within the limited fields of philosophy and psychology. This indifference is due to the common necessity of building all knowledge and all experience upon a realism of self-consciousness. To question one's self-consciousness or one's selfhood is so fatal a skepticism that to be guilty of it is to make one's self ridiculous and to reflect upon one's own sanity. All are accustomed to the fundamental assumption of selfhood from the earliest period of

consciousness, and what is commonly assumed is not often questioned. The reality of the self and of self-consciousness is never questioned from within. It is only when one is driven to the question in a roundabout way that it becomes formidable. One starts on the philosophic career with high hopes, but on premises that overlook the nature of selfhood, and then one suddenly finds one's self embrangled in insuperable difficulties. As illustrative of this fact, there is nothing easier than to assume the reality of objective matter alone. It is as we see it, and that seems to be the end of the difficulty until we begin to ask about the nature of our experience of objectivity. Then we find it difficult to place the seemingly real qualities which objectivity represents. If we cling rigorously to our materialism, we soon set them over against the reality of thing-in-itself as the questionable products of thought, mind becomes illusion and shadow, and by swift stages we find ourselves reduced to a complete skepticism wherein knowledge is impossible.

The question, however, refuses to confine itself to the arid region of dialectic and philosophy. The problem of self-consciousness and the self soon takes on an exceedingly practical nature. If one assumes with the sensationalists that ideas are the mere replica of the external world written by sensations upon the *tabula rasa* of a passive mind, the profoundly practical question of selfhood is raised. If there is no self save one that is created by sensations, we suddenly find ourselves at the mercy of the world. Men have no choices, creative or moral, and with the coming of general belief in such doctrines we find not only our most precious world of human values imperiled but, with the departure of moral responsibility, we discover all the institutions of society, law, order, and social obligation perishing also. Our own age is suffering conspicuously from a false psychology which persists in overlooking the

nature of selfhood and of self-consciousness. Inasmuch as it is so easy to entangle ourselves in our later reflections, unless we take pains to note the very beginnings and foundations of our doctrine of knowledge, a critical philosophy of self-consciousness is essential to any system of thought.

There are various theories of selfhood, only a few of which can be considered within the scope of this brief discussion. To begin with the one just mentioned, let us consider first the claims of sensationalism. We find the sensationalist, in so far as he feels it at all necessary to define selfhood, describing it as the *sum* of sensations. Here we discover an example of the deceit of words in the figurative term *sum*. Overlooking the objection that a sum is not necessarily a unity, why should sensations be a sum? For sensations appear under the fleeting order of time. They are in fleeting change and before we can entirely grasp their meaning they are succeeded by others equally demanding interpretation. This element of time is the one the sensationalist quite overlooks. The "sum of sensations" calls for more than the sensations themselves, for they are quickly gone and, under the time-order, can never return nor be reproduced. What is it that makes a sum of sensations which are no longer in existence? To make selfhood a sum of sensations is to cut far deeper than the sensationalist is willing to admit. A sum of sensations surviving the temporal flow would be an impossibility without a self to which they were incidents, which itself enduring above the lapse of time, and overlooking the whole variety of the sensations, is able to gather them into rational meanings. Such a result would be impossible if selfhood were the sum of sensations, because sensations could scarcely be held to be conscious of each other, even when present, to say nothing of present sensations being conscious of others long past but necessary to make up the so-called sum. Of course, the assumptions of sensation-

alism reduced to such bare terms as these would not be convincing to anybody except for the generous use of figures of speech. The sensationalist therefore resorts to the picture of sensations remaining after they are gone, by making physical traces in the brain cells. The relation of a trace to a sensation is and must remain a profound mystery, but to the sensationalist any mystery is preferable to the admission of mental and spiritual reality, and he is satisfied to leave his precious theory in the hands of a figure of speech if it possess but the shadow of materiality.

A similar criticism holds of the more refined doctrine that the self is the sum of states of consciousness Since the doctrine is a more refined type of sensationalism, it calls for a more refined answer. As sensationalism meets its fate when it faces the problems arising out of the nature of time experience, so the doctrine of the self as states of consciousness experiences difficulty arising out of relation. It is essentially the same problem in both cases though differing somewhat in form of statement, and needs but a brief supplementary statement here. In a rational mind all states of consciousness in order to produce unity have to fall into an order of relation. Any particular state of consciousness unless it be aware of all other conscious states would be incapable of finding and postulating any order of relation. But such an order of relations is always postulated where there is normal selfhood. Where such an order of relation is not set up we have complete insanity, and where it is but partially realized, we have what is sometimes called split personality.

Such reflections bring us face to face with the fact of the self-referring nature of all experience. A consciousness of duration is required which is not found in sensations nor in states of consciousness themselves and which is something more than memory. Sensations and states of consciousness rise and pass across the stage of experience before

a selfhood which watches and relates them into meaning as if it were both spectator and actor, for again and again it interferes with the action on that stage. Again and again it modifies the sensations themselves to suit the purposes it has in mind. If sensations are necessary for the attainment of a desired end, it has ways of arousing them. It is never more than partially the prey of sensations and always where the selfhood is formally functioning has power to direct, divert, or suppress.

To call attention to these facts is, of course, easier than to explain them. One does not know that final explanation of the mystery of selfhood is possible, but the facts mentioned are facts of common experience which no unprejudiced mind can deny. The entrance of such a self-sufficient actor upon the stage of consciousness is something more than memory, because memory alone would be incapable of commanding some states of consciousness to action while suppressing others. Even the Freudian psychology, while denying will and moral responsibility, in its attempt to reduce all activity to the dead level of necessitarianism is compelled, in direct contradiction to its most important postulate, to assume the superior power of a self-conscious actor which does the inhibiting by an act of choice. Obviously, if we have anything about us which can inhibit the unpleasant or the undesirable we should seek there at the very beginnings of creative imagination for that will which is of the very essence of selfhood and personality. Whatever uses memory for the accomplishment of the purpose of suppressing such impulses as may not be useful to it, can never be logically identified with memory itself.

At this point arises the dilemma as to whether selfhood is the function of bodily activity or whether the bodily functions provide the field of self-activity. One could hardly hope to settle a question upon which there is such

extraordinary diversity of opinion. One's opinions are likely to be influenced by the main direction of one's mental predilections. Yet which horn of the dilemma we choose will have profound significance for all our later thinking. The first viewpoint has long since been summed up in the classic assertion that "The brain secretes thoughts as the liver secretes bile." In such a case one is freed from all responsibility for one's mental condition, and an education should be the easy product of a healthy brain without the acting will of the individual. The disparity between the production of thoughts and the production of bile does not seem to depress the spirits of those who assume this point of view.

Another and to us a happier view is possible. Recalling the recognized importance of the self-directing ego, even to the systems which deny any self-functioning personality, it is possible to view the bodily functions not as producing personality, but as providing the field for its activity. Such a view will at least be free from the inconsistency of depending upon a selfhood which by fundamental postulate it denies. It is true we have gotten far from the old logic and do not place much importance upon the conclusions of dialectic, but the dependence of a non-egoistic psychology upon the assertion of egoisticity to make it a going concern, presents a situation of grotesqueness which would be immediately apparent to any but the blindest devotees of initial presumptions. If there is a power of inhibiting the unpleasant, the painful, or the unprofitable in consciousness, then there is a power also of sublimation, of turning the direction of the mind and of experience toward that which is pleasant, profitable, and right. It is true that we hear in this type of psychology too much about the danger of inhibitions and too little of the duty of sublimation, but not a shred of fact would be left, even to Freudianism, were it not for the more or less suppressed

assumption in it of a self-active ego which is not the victim, but the master, of sensations. Out of the cloud of such hostile considerations there shines forth the encouraging truth that bodily functions are not superior to mind, but that they furnish the field of activity of which personality may be the conscious master.

It may very well be assumed as a fact, true to all experience, that what we call the ego, or self, builds up experience out of conscious reactions to the physical world without and within. Profoundly influenced by that world of sensations, played upon by impulses grounded in the very nature of physical function, it still has the power to bring these into subjection to its own superior ends. It can even command the body to act where the strongest physical impulses are against it, compelling them like whipped animals to lie in quiescence, or commanding them to turn their strength into the channels of its purposes. The act of the boy who in the day of battle saw his "buddy" in an agony of pain from liquid fire and against all physical impulses of fear, against the command of his captain, and in face of the instant death which he knew would be his, hastened over the top to put his companion out of misery, cannot be adequately accounted for by any mechanistic psychology. The lad displayed in the hour of trial that sublime reality which we call the self, which reacts to external impulse, and is the spectator of the physical scenes of time and change, but has an existence of its own, superior to all. We have in this example a mind which was strongly master of bodily impulses. If we are determined to admit only sensory stimuli we cannot account for that self-command frequently exercised which inhibits some and releases others in pursuit of rational and ethical values.

However much we may be moved by such facts of experience, they will not, for some, dispose of the question

of the relation of self-consciousness to a normally functioning body. In actual life whatever limits bodily freedom seems to be found limiting self-consciousness. We who thought ourselves so clear of the sensational implications seem suddenly to find ourselves back in the slough of materiality. We cannot avoid the still more startling question whether the soul is dependent upon the body and whether it will cease with it. Of course, in the final analysis our answer to this question will depend upon faith. There is no scientifically demonstrable fact here with which to deal, but philosophy has the power at this juncture to introduce considerations which make the belief in immortality reasonable. These considerations spring out of the time-transcending, space-transcending character of self-consciousness and are discussed more fully in another chapter.[1] While it is true that self-consciousness expresses itself under the order of physical relations now, that being the order under which it is given to express itself, its superiority to temporal and spatial process of bodily function argues the reasonable assumption that eventually spatial, and it may be, temporal order may not be necessary to its self-manifestation. The fact is that it is now superior to the physical order and by that much not dependent upon it. It can safely be presumed that what is already experienced as superior to that order shall survive when for it that order shall have passed away.

Perhaps even the darker question, though it may not appear so for the average mind, is the limitation which physical function seems to set on mental and moral achievement. There are some who seem by inherited physical weakness to be incapable of strong moral mastery of themselves. Physical impulses seem to have all but complete control over them, through the power of evil imagination or the absence of constructive good imagi-

[1] Sc. Chapter XXIX, "Deathless Personality."

nation. Such individuals seem committed by bodily and physical disease and disorder to a dwarfed moral stature. This is where the materialist inflicts his finest scorn. His argument, however, holds only of a world in which the reality of values is overlooked. If values are established by the struggle of the soul for self-realization, then a reality may be established by him who wins his lesser moral victories at terrific cost, which far outshines the worth of that established by the man of strong will, who is of strong will largely because of lack of physical handicap. One is well aware that in assuming this position the problem is largely taken away from reason and handed over to insight. But who of deep experience with life has not found it necessary again and again amidst the thronging mysteries of life to go from reason to faith and insight, and in doing so has found a practical strength for living. When one reaches the limits of human reasoning one must perforce fall back upon spiritual hopes, but who so doing has ever been confounded!

A final consideration remains to claim our attention, namely, the unitary nature of self-consciousness. Self-consciousness as an entity is the assumption necessary to make it efficient in solving the problems we have been considering. How this entity can partake of change and yet survive change is, from the standpoint of logical explanation, an impenetrable mystery. As a fact of experience it is common to all. How the self keeps its self-identity through the complexes brought by time and change and mood is one of the supreme paradoxes of life. That this identity is a fact of experience none of us can rationally doubt without committing ourselves to a complete skepticism. Anything which interferes to break up this sense of continuity and identity weakens the centers of control and makes normality impossible.

It is a question whether the sense of identity is ever com-

pletely lost or changed even in extreme cases. In the case of Miss Beauchamp related by Morton Prince,[2] and in the later pamphlet written by Miss Beauchamp, we discover that, while she gave herself over to the various moods or complexes called divided personalities, there was ever present, at least in the beginning of each mood, a consciousness on her part that she ought not to let herself be any one of the dissociated personalities. Upon this essentially unseverable unity in fact hinged her recovery. For by building up confidence in her power of self-control, she was at last brought to complete recovery. Her case then instead of arguing for a mind made up of states of consciousness, argues rather for that unity of self-consciousness which we have held essential to selfhood.

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[2] *The Dissociation of a Personality.*

Chapter XXII

"BELOW THE THRESHOLD OF MIND"

The subconscious does not exist apart from the conscious—Distinction between conscious and subsconscious largely a matter of attention —The large field of lesser attentions or marginal consciousness— The selective nature of mind—The relativity of consciousness— Subconsciousness and the region of ideals, dream, and duties— Relation of the conscious to the subconscious—The conscious dependent for a background upon the unconscious—Utilization of the subconscious the source of success—Harmony of conscious and subconscious necessary to balanced living—Divided personality arising out of conflict between the two—Failure to relate certain experiences to others—This the pathological element in religious fanaticism, a set of religious "experiences" without relation to ethical action in life.

We have arrived at a state of mind in which, according to many, the subconscious is even more important than the conscious life. However much of truth there may be in the contention, and there seems to be much, we should not forget the necessary relation which exists between any so-called subconsciousness, or unconsciousness, and conscious selfhood, in order to make it possible for them to appear in consciousness. Were the subconscious or the unconscious entirely true to the definition given them by many thinkers, there would be little chance of their affecting conscious life. As a matter of primal fact, we should recognize that the subconscious, and what is ordinarily included when the term unconscious is used, has no existence apart from the conscious. The term marginal consciousness is perhaps more expressive of the fact than either the subconscious or the unconscious. These terms are applied to conscious human beings, and there must be

some bond of relationship to conscious experience or they could be assigned no reality at all.

The term "threshold of the mind" must be recognized as a convenient figure of speech which has no analogy in actual experience. Just as there is no "doorway" of the mind, so there is no "threshold." The convenience of the expression becomes exceedingly misleading, for it gives the notion of certain basement ideas as being both in existence and out of existence at the same time. Ideas are due to mental activity and do not exist apart from it. They cannot be said to linger, or to reside, in mental cellars or garrets, apart from thinking them, yet many volumes of discussion hang upon the misuse of the term mentioned.

When careful consideration is given to the facts it will be found that the distinction between conscious and subconscious is largely a matter of attention. The mind works with such lightning-like capacity that it can attend many ideas in an inconceivably small portion of time. Indeed, while the main attention is being put upon a matter of immediate moment, other objects and events are claiming and receiving subsidiary interest. The scholar in his study, absorbed in work that demands the closest attention and seems to command his entire interest, becomes conscious when the task is done that while he was at work some one entered the room, or recalls the striking of the clock, and by counting over can recall the number of strokes that give him the hour. There is the field of main attention, which we call the conscious, but there is a larger field of lesser attentions, which we sometimes call the subconscious or the unconscious.

Naturally, to get results on a complicated problem it is exceeding advantageous not only to bend the main attention upon the matter in hand but also to give it prominent place in the larger field of lesser attentions, that the mind may play upon it in the multitudinous intervals between.

For while the mind is selective of the things upon which it will bend attention, it selects seriously only when driven by will or purpose. Though the mind is never inactive, it is active to a purpose only under the spur of the directive self or will. Thought thus undirected breaks down into mere reverie or fancy. Consciousness then is discovered to be relative. We are more or less conscious of the world about us according to the degree of attention which we throw, now in this direction, and now in that. It is all but impossible for any mind to give exclusive attention to any one idea or object, or to any set of ideas or objects. Adeptness in restricting the attention, which comes of long discipline, and to some minds more than to others, is exactly what is called power of concentration.

Reflection will show that the relation of the subconscious to the region of dreams, ideals, and duties is very close, because whatever can be gotten prominently before the mind in this field becomes the subject of exhaustive consideration. It may be even truly asserted that until our work does get into the field of involuntary attention it has not "gotten on our hearts," as we say, sufficiently to make us successful at it. For fear some one will trip over the term involuntary, let us pause for a word of explanation.

Attention may be consciously willed, and consciously willed attention is always an unnatural strain, or it may be voluntarily committed to the larger field of marginal consciousness. Perhaps the voluntarism of the bicyclist is as good for illustration as any. Movements which began with the utmost exercise of will become habitual and while not removed entirely from the field of will are committed by it to the plane of lesser attention. It is thus with our work, dreams, and ideals; we can so saturate the mind with their importance that intervals which are not preëminently occupied with more exacting attentions allow

them to come into the field of consciousness. It may be only momentarily to be sure, but a connection is being made between results thus achieved, and eventually we shall find our problem unfolding itself before conscious attention.

The relation of the conscious to the subconscious is thus seen to be very close. If direct consciousness is to make the greatest gains, it must have a well-determined background in the subconscious. To endeavor to do one's work without this background is to work without perspective. It is like a picture without depth. This is exactly the reason that for successful effort the writer demands leisure, or the inventor solitude, or the man who would live righteously hours of worship, prayer, and reverence.

The American spirit of immediacy, of aggressive accomplishment of what our minds are set upon, is in direct conflict with the highest creative effort. This seems to be clearly shown by the American genius for organization so necessary to business success as contrasted with artistic accomplishment. The average American mind seems to include in its dreams predominantly the ideal of financial success, and this has been a stultifying factor and has given our culture a one-sidedness that is a just basis of complaint against us. The conscious effort cannot reach great success until it has the background of persistent ideals, dreams, and hopes which are valuable in turning the great drive of life in one direction and accomplishing solutions without the strain of conscious attention.

The prime factor of success lies possibly in the utilization of the subconscious. It is as impossible for the mind to be kept at a single phase of attention as it is for the soldier to hold for a long period the position of "attention" on parade. The mind which has enriched the subconscious by moving dreams and ideals has introduced into life elements that will keep his life true to those ideals when the

strain of conscious attention has for the moment become impossible. The bank clerk whose dreams are of what can be done with money for speculation and who dwells for a moment upon the possibility of surreptitious borrowing, even bolstered by the thought of return when he has succeeded on the market, has introduced by the thought a dangerous element into the subconscious. Already by admitting such mental pictures his will has begun to act in the wrong direction. His will for rectitude is already breaking down. The time will likely come when the subconscious dreams will become stronger than the conscious willing of attention. What has really filled the larger field will have volume to cast down all artificial barriers, such as the attitude of the community, the fear of discovery, or even his attentive will, and what he has only dreamed will become deed.

It is not necessary to dwell upon so painful an illustration further than to reflect that the same principles, in this case wrongly applied, will work equally well for success and right action. He who writes into life, dreams, and ideals of nobility, unselfishness, and sacrifice is laying up capital for ethical action which will hold him fast amidst tides of temptation to evil, when the strain on voluntary attention would seem too great. It is then that the larger reserves of life pour in and the man scarcely realizes the sources of his power. The subconscious thus becomes the determining factor in his career. One feels that something of this kind must have been true of Jesus when, upon the cross, he prayed forgiveness upon his enemies; "for they know not what they do." He could never have uttered those words under those circumstances had not the sentiment which they revealed been first deeply written into all his dreams, ideals, and thoughts. For the action of men in crises of any kind are the revelations of the subconscious ideals which have arisen, not undirected and unwilled, but

which are the result of the voluntary guarding of the deeper sources of life.

Harmony of the conscious and subconscious ideals will be seen as necessary to successful living. The discoveries and advances of modern psychology disclose to us this fact in vivid manner. We hear much of inhibitions, complexes, and conflicts. These arise from lack of harmony between the conscious and the subconscious. This is not altogether a modern discovery. It is at the basis of the statement of the Great Teacher that one "cannot serve God and Mammon," and of that internal conflict which Paul discovered in himself between the spiritual life and "the body of death." We may force attention upon righteousness without really desiring it in our inmost being. We may, under the spur of social influence or condemnation, *will* to follow the high road of sobriety and truth, while at the same time we admit into the inner sanctuary of the subconscious a will to do evil. The external will cannot long survive the strain of such a double allegiance. The subconscious, which is the real will in the case, working day and night, in reverie and in dreams, and in the waking intervals between attentions, is preparing the main drive of life. It can so becloud the ethical issue as to deceive us eventually into a substitution of wrong for right, or what in our normal moments appears to be right. If now there is repression by a strong act of will, we get what the psychologist calls an inhibition or a conflict. The power raised by evil thinking demands an outlet and may issue in any kind of hysteria or partial insanity. The only cure is a restoration of harmony between the conscious and the subconscious will.

The Freudians have falsely assumed that harmony is desirable at any price, and so recommend giving way to the subconscious wish. The more thoroughgoing treatment, and the only one that is curative, is the clearing of

the subconscious field by what is in religion called conversion, and the active setting of the subconscious will upon the pure, the noble, the true, and the just. The truth of this is readily demonstrated by the fact that once the evil subconscious is allowed to have its way it refuses to be satisfied with the degree of evil thus realized, but, taking control over the conscious will, makes ever more and more insistent demands, and thus creates new complexes.

It is the conflict between moods of thought, or complexes, which with any weakening of the conscious power to will give rise to what is called split or dissociated personality. Here, too, if there is to be genuine recovery one must go back to those will sources, which have to do with the choice of ideals, in the creative imagination. If the subject can be reunited in the mental and spiritual sources of external will and internal wish, he can regain self-control.

One other problem of interest in this discussion springs out of the lack of unity between the conscious and unconscious self. The failure to relate experiences of conscious and subconscious life to each other in one harmonious whole is the fertile source of all sorts of religious, social, and political aberrations. This is the pathological element present in all types of religious fanaticism. Fanaticism is distinguished from ordinary religion exactly by the incongruity arising between its so-called "religious experiences," which are the product of the subconscious, and its ethical achievement. Two sets of subconscious experiences have been at work. There has been a divided will. There is a wish that the one may have precedence over the other.

But desires so unceremoniously repressed have yet other ways of persisting and raising a conflict, so long as the harmony between conscious and subconscious has not been established. The victim permits the battle to take place

wholly within, between two opposing complexes. Thus on this phantom field are fought out his battles, without that restoration which would come by complete harmony between outer and inner life. Subconscious ideals of righteousness which are not given concrete expression in work for one's fellow-men, in the common tasks and accomplishments of life, but remain shut up in the ideal realm make all sorts of demands that have no hold upon the realities of life. Thus great moment is attached to artificial and non-essential standards. The victim is tortured with what appears to him a supreme conscientiousness. Matters of little moment are made to seem great sins or great sacrifices. In spite of all the struggle, there is no real harmony of soul. The peace which is had is often a false peace consonant with two orders of life, an outer and an inner, and the outward one shows frequently no real advance in ethical living. Most often there is real conflict between the will to obvious duty and the subconscious will to righteousness. The victim of fanaticism is then in the position exemplified by a known instance of one who turned from the real duty of nursing an invalid, an unpleasant task, to the "higher" (?) duty of spending the whole day in prayer for the recovery of the sick by divine healing. It is high time that Christian students and scholars should tear the mask from this suppositional type of religion and expose its real poverty and shallowness.

SUGGESTED READINGS

BUCKHAM: *Personality and Psychology,* Chapter IV.
HOERNLE: *Matter, Life, Mind and God,* Lecture IV.
RICHARDSON: *Spiritual Pluralism,* Chapter VIII.
STRICKLAND: *Psychology of Religious Experience,* Chapter VII.

Chapter XXIII

WILL THE SUPREME ACT OF PERSONALITY

Relation of will to the subconscious: Nothing gets into the subconscious without the consent of will—The example afforded by hypnotic states—Will is not to be taken as something apart from its exercise—It is particularly the act of personality—Will begins long before the act, in the creative imagination, in the picture of memory, the cherished thought of the subconscious—In the end the problem is one of the moral will—This is the supreme act of personality—Decisions of moral will the most persistent—Those decisions which pertain to the lower order pass away, but those of the moral order may be eternal.

There is no intention here to reintroduce the forgotten ghosts of the ancient "faculty" psychology. Will is here to be considered not as a faculty but as an act. When we think of it as a faculty we are almost invariably led into positing it as an entity which exists alone and apart from its exercise. The fact is that will is the act of a self-reflective person and as such has no existence except in its exercise. Any other supposition is sure to lead to no end of trouble. We are easily misdirected into byways similar to those that infest the notions of mind and thought. The fact that thought is the act of a thinking subject is overlooked and soon we begin to imagine thoughts as standing in their own independent right, as existing apart from thinking. We early search for room in which to place them while they wait around until called for, and we are at once invested with a lot of picture thinking that bears no more relation to truth than the fabled lamp of Aladdin bears to the achievements of modern electrical science. Thus it has come about that great sections of

philosophical and psychological endeavor have been given over to the pursuit of fables of the imagination. This same disaster has attended those considerations of the will which overlook the main point that will, like thought, is an act existing only in its exercise.

Willing is the particular and unique act of personality. It reaches its highest and truest actuality when realized not only through the capacity for self-consciousness, but through the further capacity for reflection upon one's state of consciousness. Only here does it achieve a real condition of freedom. There are degrees of approach to this complete type of willing. In the degree that the animal chooses between goods we must admit there is a partial exercise of willing. Though much place must be allowed for comparative strength of impulses, yet these do not seem, even in the animal, always to dictate the direction of choice. The dog faces the storm rather than lie by the cozy fire perhaps because of some dim consciousness of responsibility, perhaps because of an urge which by training has become habitual,[1] though there is no longer fear

[1] The belief of the author is that most of the so-called instincts are laid down by habit. Does this take from us those activities sometimes spoken of as innate and inherited? These seem to him to spring rather from capacity to function, the existence of a functioning organism than from anything like a transmitted experience. He is conscious that this will seem naïve and heretical to the average psychologist and he sets it forth as a tentative opinion which may be worth consideration. He has the feeling that there is a constant tendency to ascribe to instinct more than the word will bear even when there is no intention of doing so. It is possible, of course, to regard instinct only as this ability to make the functional responses prepared by heredity, but even with such purity of intention the word is taken at more than such connotation by the average reader. It is to such that we endeavor to appeal and this must be the reason for a very non-technical treatment. The failure to use instinct in the restricted sense arises from the author's hostility toward divorcing a word from its usual content, which, however guarded, ordinarily leads to carrying back into its meaning what

of the whip, or even of the disfavor of his master. This habitual type of choice is what we call faithfulness in the dog. It is of a lowly degree to be sure, yet one could hardly say there is no element of choice or willing in it. However near it may approach an act of human choice, there is a difference. In the animal there is probably no reflection upon the motives of choice. In man reflection is the chief characteristic of his willing. For with man it is not a blind following of impulses, unless he wills it to be so, nor even a weighing of impulses to determine the direction of greatest desire or value. It is a choice made in the full light of conscious motives, of ends to be gained, and it may be made in direct opposition to the most urgent of natural impulses. Its exercise under these reflective conditions gives to willing on the part of man the nature of moral decision and endows him with a sense of moral responsibility. The absence of moral sense, of real social understanding, and of language seems a potent reason for denying the existence in animals of the capacity for reflection upon conscious states. The possibility of reflective selection becomes the basis of language, and all social and political institutions and the academic denial of it is nothing less than moral and social nihilism.

A main reason for the modern disparagement of the will, though not the only one nor perhaps the supreme one, is due to popular misunderstanding regarding its place and exercise. As a matter of fact, will goes more deeply into the subconscious motives than is ordinarily supposed. Men carry on frequent conflicts within themselves, con-

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has been barred by definition. In the sense here used, whatever becomes habitual either for animal or man becomes instinctive, with this difference, that in man habits are attended by reflection and one feels inclined to use for them the term intuition. We would especially commend Hocking's definition in *Human Nature and its Remaking*, Appendix I, p. 441.

sciously driving their wills in one direction while subconsciously allowing the creative imagination to dwell upon the opposite course of action. It is from this source that we have the so-called complexes and inhibitions of the psychoanalyst. We can scarcely hope to achieve that to which our whole personality, conscious and subconscious, does not give consent. There must be completeness and singleness of purpose if there is to be any really creative willing. The source of this singleness of purpose lies within the very center of personality in the creative imagination. He who has begun to dream of a course of action, though his lips be saying "no" as rapidly as he can talk, has consented to it already, and if it be a wrong course of action has already entered into temptation by allowing it place in the imagination. We cannot dream of, dwell upon, and love one course of action and then in the supreme moment have any certainty of being able to stem the flood of so-called subconscious desire in the interest of appearances, conventionality, or manner. Willing begins long before the actual accomplishment in the creative imagination. The first act of will is in granting any concept permission to dwell in pictured reality before the mind. The cherished pictures of memory and imagination, the cherished thoughts of the marginal consciousness are themselves acts of will, easily determined when they first occur to the imagination, but growing in power as they are cultivated, until the individual feels himself moving on to accomplishment which seems really unaccountable and surprising to himself as well as to those around him.

Something has already been said in the foregoing pages of the reflective element in the freely willing personality as the source of the sense of moral responsibility. The exercise of the moral will of the individual, or the moral willing of the individual, marks the highest point and

privilege in human personality. Moral willing is the supreme act of life. Will has not in the truest sense been exercised until it has had to do with moral choices. And these choices are not by any individual to be avoided in the interests of willing upon a lower plane. The very choice by which moral decisions are evaded is an act of will in opposition to the deepest demands of personality. The choice may be voluntarily made but once and for all time, but a choice nevertheless it is and one that has the profoundest results for all the after life. It is of the very nature of moral choices to show a persistence which is found in no others in equal degree. Decisions pertaining merely to the physical welfare pass away and are forgotten. Moral choices, because they are self-realizing acts of the soul, are inseparable from the personality and become part and parcel of it, influencing all its decisions, determining the direction of the creative imagination, and blighting or blessing, as the case may be, the very fountain springs of human existence. Decisions of the moral order are eternal, unless counteracted by a change of will which calls for the complete rebirth of the personality itself.

In its ultimate nature will appears to be a realization of the relation which may exist between objectivity and subjectivity. It is the medium by which the mind acts upon the world outside itself. Even the movements of the body depend largely upon will, and it is the great means to the expression of desire. Through it the inner consciousness expresses itself objectively. Stated in terms so bald as this it becomes practically identical with personality itself. But it is the determination of how that subjective person shall express himself objectively. It is a realization of those relations which the person does not altogether establish, but which, on the other hand, he realizes. The possible relations are grounded deeply in the nature of things, but these relations are contingent upon the willing act of a

person. It is given him to determine the direction they shall take. There is then a very true sense, though a limited one, in which the human person may be said to be creative. He it is who has the decision of how his thoughts, dreams, impulses, and desires shall find objective expression. The manner is not determined by other wills, nor by physical impulse, nor by heredity and environment, influential and modifying though all these things are.

In the final analysis, an act of will is a free human personality creatively giving expression to itself. When that expression ranges along the higher plane of moral and intellectual achievement, we have the expression of creative personality.

SUGGESTED READINGS

BOSANQUET: *The Value and Destiny of the Individual,* Lecture IV.
BOWNE: *Introduction to Psychological Theory,* pp. 219-234.
JONES: *Faith That Enquires,* Lecture XVI.
LOTZE: *Microcosmus,* pp. 240-263.
MCTAGGART: *Some Dogmas of Religion,* Chapter V.
RICHARDSON: *Spiritual Pluralism,* Chapter IV.

Chapter XXIV

GROWING A SOUL

Self-consciousness rises to its highest realization in acts of the soul—The prime activity of the soul is moral volition—Only through the soul that one reaches highest personality—What if the soul cannot be truly said to exist apart from moral action?—The soul is moral self-realization and does not exist apart from its activity—When then does it arise?—As soul it begins with moral self-consciousness—But moral self-consciousness begins with the first sense of oughtness which is probably much earlier than we realize—When does the soul begin?—Potentially with or before birth, efficiently with dawn of moral self-consciousness What do we mean by the saving of a soul—Nothing more nor less than moral self-realization—The loss of the soul must mean the decay of moral powers through disuse or misuse of moral choices—The persistence of moral self-consciousness—The soul seems never to forget—The serious character of moral shock in the dissociation of personality—The removal of the soul from psychology—Due to the attempt of psychology to be pure science, and to the closer distinction now possible between self-consciousness and soul—And the fact that soul is a moral value and so outside the field of scientific demonstration.

Self-consciousness rises to its highest self-realization in the soul. What is ordinarily meant by the term soul is identical with moral self-consciousness and self-realization. We have seen how the capacity for self-reflection grounds the moral and social qualities of man and distinguishes him from the brute. This capacity is in reality soul-capacity. The soul, like the will, or the person, may not rightly be considered as something apart from its activity. Moral choices are the manifestation of the soul and the soul realizes itself through them. The growth, worth, and power of the soul is thus dependent upon moral

activity. Moral volition is the prime activity and essence of the soul.

Here again much misunderstanding has arisen from taking the soul as something apart from concrete moral activity. It is assumed as an abstraction which exists apart from its activity. The imagination is then called into play and souls are discussed as something quite independent of their manifestations, and just as in the case of thoughts considered as independent of thinking, we begin to demand a place to hold them, and all sorts of troubles arise from our wrong conception. Just as personality must be grasped by a sort of realism, assumed as a self-conscious entity, so the soul carries its unity and its persistence within itself. That which is the subject of moral decisions and moral self-realizations is the soul. It is useless then to discuss whether or not we have souls, as useless as to discuss whether or not we exist, for if there is moral activity, the choosing of right or wrong, or the power of choice, that unit which thus morally realizes itself is a living soul. We do not have to prove nor to substantiate it. Like the personality it is substantiated in living experience. Its substantiation is that of life. It will have been noted that in this definition there is no essential difference between the soul and personality. It is only a difference of degree or emphasis. It is in the soul alone, that is to say, in more strictly moral action that one reaches the highest meaning of personality. Because the exercise of freedom takes on moral or spiritual qualities, we prefer to call this phase of the experience of personality, the soul.

What conclusions must follow if the soul cannot be truly said to exist apart from moral action? If the soul is moral self-realization, and does not exist apart from its activity, when then does the soul arise? As soul it would then begin with the dawning of moral self-consciousness, but moral self-consciousness begins with the first sense of

oughtness, and this may very probably be much earlier than we realize. One cannot be unmindful of the difficulties here bristling at every point. Such questions arise as, "Is the soul transmitted or created?" and a whole galaxy of theological conflicts leap into the arena to recommence the warfare of past centuries. It is not our purpose here, however, to touch upon the theological aspects of the controversy, which may be safely left to the more skilful concern of the theologians. Our purpose is rather to treat the subject from the purely philosophical aspect in order to see what benefits and enlightenments an intellectual consideration of the question may bring.

Is the soul transmitted through inheritance? Who can answer categorically. Heredity furnishes the physical field of its activity. But the personal elements which make up the soul cannot be said to be inherited, because it is of the very nature of goodness that it must be the free and concrete moral choice of an individual. The answer would seem to be that the soul is created. But can it be said to be self-created? No and yes. No, in the sense that it could not exist except through the creative act of a Cosmic Intelligence, which provides a world of relations and a physical body and mind which are capable of being the field of its manifestations. Yes, in the sense that the moral choices through which it realizes its life and existence are its own.

It will then be seen that, though the individual soul may be said to have existed "from the foundation of the world" in a Supreme Thought which was creating the field of its activity, there is a narrower sense in which it begins truly and concretely to exist only with conscious moral decisions. When moral decisions begin, and there is a sense of oughtness, then a soul is actually living and realizing itself. If moral decisions were impossible and there could be no sense of oughtness or of moral choice,

there would arise a question as to the existence of soul. Such a standpoint, namely, that all beings with capacity for moral action are endowed with a soul would exclude scarcely any of human parentage, because a sense of moral oughtness is present even in individuals who are mentally deficient. In fact, at times it appears particularly strong in such individuals, as if it were in some measure independent of mental capacity. When does the soul begin? Potentially it begins with or before birth; efficiently with the beginning of moral self-consciousness.

What then could philosophy mean if it were speaking of the saving or the losing of a soul? What could be meant by the saving of a soul? It could mean nothing more nor less than moral self-realization. Saving one's soul would mean self-realization of the highest powers of personality through continuously right moral choices and the free pursuit of the highest ideals of righteousness. If this seems to emphasize too much the part played by the individual in his own salvation, it is necessary only to remember that the whole field of moral activity is provided by the supreme Creative Person, and all incitement to such self-realization would have to come from the same source. This consideration would deliver us from the charge that man is alone capable of his own salvation, inasmuch as both the ground and incentive of moral action can come only from the Supreme Source. When troubled by this phase of the question we need to keep to the bed rock of fact that wrong moral choice is possible and is frequently a fact. Therefore we ought not to be afraid to give credit for the following of right moral choices which makes possible the saving and growing of the soul. Scarcely anyone in his right mind would be willing to proclaim that the saving of the soul has no relation to moral choices, for such a supposition would upset the whole moral structure

and confound goodness and character with badness and lack of character.

On the other hand, and with the given conditions, the loss of a soul would mean not some arbitrary and capricious power exerted from outside the soul, but the decay of moral powers through disuse or misuse of moral choices. This fact is one of profound significance to the theologian, who could then no longer think of salvation or loss of the soul as something to occur at the end of the earthly life, but would see it as a process in operation, in one direction or another, from the beginnings of moral self-consciousness.

There is scarcely any fact of human experience more important in its bearing upon life than the fact of the persistence of the moral self-consciousness to which reference has already been made.[1] The marked character of the soul seems to be in its persistence, its inability to forget. The examples of abnormal psychology and particularly cases of dissociation which have been studied seem to indicate that the most serious and persistent cases arise out of shock to the moral self-consciousness. The more serious "complexes" apparently arise out of moral conflict, a failure to achieve unity between the moral self-consciousness and the moral will. The soul seems never to forget. Under the stress of tragedy or change, situations long buried deep in the marginal consciousness and influencing the life of the imagination, spring into vivid consciousness, and the soul stands revealed to itself with a terrible impartiality, which should give the reckless man pause before his effort to hide from himself his own moral shortcomings. That we are able to turn attention away from them for a time may very likely be due to that limitation of attention which attends existence in the temporal and spatial order.

[1] Sc. preceding chapter, "Will the Supreme Act of Personality."

If it is possible thus to consider the soul a reality for philosophical discussion, some one is sure to ask why the existence of the soul is so frequently denied among modern psychologists. That so many psychologists deny the existence of the soul must be held to be the result of the effort to confine themselves to a purely scientific basis. But it is not to this alone. Through a deeper study of the meaning of personality it is possible to distinguish more closely between self-consciousness and soul. The important fact about the soul is that it is a moral value and as such is not amenable to scientific treatment, at least as science is at present wont to define itself. It is properly outside the field of psychology as a science. It is beyond the field of scientific demonstration. The soul is the moral phase of human personality, so important and so regnant there that truest and highest personality cannot be achieved apart from its development. Our souls do not wait for scientific demonstration. We are conscious of them through experience, and through experience alone. However strenuously we try to convince ourselves of their non-existence, we are never quite disabused of the feeling that they are the most important and essential part of us. We discover in the moral life a blessed *daemonium*, like that of Socrates, urging us to nobler endeavor, or a voice upbraiding our moral remissness with a power of punishment quite demonic. We feel quite intuitionally that the growth of a soul is the crowning act of personality.

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BOWNE: *Introduction to Psychological Theory*, pp. 298-318.
BOWNE: *Metaphysics*, pp. 299-380.
LOTZE: *Metaphysics*, pp. 163-198.
LOTZE: *Microcosmus*, pp. 143-167.
SIMPSON: *Man and the Attainment of Immortality*, Chapters IX, X.
WARD; *The Realm of Ends*, Lecture XVIII.

SECTION THREE

PROBLEMS OF VALUE

Chapter XXV

THE COSMIC REALITY OF HUMAN VALUES

Philosophy and the scientific spirit—Science starts with a preconception such as unity, uniformity of law—Is there not a deeper demand that we should start with the fact of moral and spiritual solidarity?—The reality of moral values—If we are to consider life we must. As there can be no scientific thought without the one, there can be no true explanation, philosophy, or life which does not start with the other—The scientifically undemonstrable character of human values does not remove them from the field of cosmic reality—It simply designates them as in another field—Scientific "facts" are meaningful and real to us only as values—They are only values of a lesser order—Here lies the reconciliation of science and religion—Human values are the supreme ones, the ones we live by, die for, and which alone survive the passing and changing order—Values though not scientifically demonstrable are demonstrable in life and experience.

In almost any other period of history than our own an attempt to justify or demonstrate the claim for the cosmic reality of human values would have seemed ridiculous or absurd. To coming generations again it will doubtless seem a perverted outlook on reality that made such demonstration appear necessary. Our heads are turned with the new wine of discovery and invention, so that we worship the material and the sensual as the only realities, while those deeper fires which burn within the soul, which make possible all inspiration to creative art, to literature, to social and spiritual achievement, are quite likely to be passed over as morbid manifestations demanding the attention of the psychoanalyst. The curious fact is that we are able to live alongside so deep an inconsistency without

sensing it. However much we relegate these experiences of the soul to the limbo of unreality, the existence of which we scientifically deny, they persist as the deeper objects of all our striving. Calling them unreal, we present the rather sorry spectacle of still living for and by them, and whatever of satisfaction and richness is left in life abides through a clinging loyalty to them.

The claim is frequently made for science that, while religion and philosophy possess the weakness of foundation principles by starting with a preconception, science starts from the single and only worthy principle of search for facts. Thus it is held that an inherent weakness for preconceptions invalidates the conclusions of religion and philosophy, while science, alone devoted to facts, moves on triumphantly. Such a conclusion could be drawn only through a rather arrogant oversight of the "facts" which have to do with the foundations of scientific theory. A science which was nothing but *facts* or even knowledge of facts could lay little claim to the name of science. The value of science lies in its generalization and relation of fact to fact by means of which the mind builds a universe of sequences and connections, applying these generalizations to the needs of life. Frequent reference is made to the mistakes and absurdities of philosophy and religion. The change, for instance, from the conception of God as lustful, revengeful, and malicious to that of a God of tenderness, love, righteousness, and truth is mentioned as militating against all claims for the truth of religion. No very extended knowledge of history is required, however, to recall many instances in which science with unabashed confidence has been positive, but incorrect, in its assertions. No one twenty-five years out of college but has had abundant necessity to revise the theories of physics, biology, and chemistry which were taught him as facts. This is due to the theoretical implications through which all facts

must be interpreted. They are never so simple as they seem to the unphilosophical. Facts never stand alone nor unsupported. They are always in relation to other facts and cannot be considered apart from their relations without removing something of their factuality. Thus is shown the exceeding dependence of science upon hypotheses of relation. Far from accepting as true the claim of science that it starts without preconceptions, we are faced at the very beginning of science with the preconception of unity, of universal and uniform laws, and unalterable sequences. Without these preconceptions there could be no science,[1] and instead of raising the primary claim that all science is therefore invalidated, we rejoice in any verification of such general hypotheses as serve to give us working insight into the nature of reality. If science can get nowhere in the ascertainment of facts, except upon the hypothesis of the solidarity of the universe, and must in the end justify its hypotheses by the pragmatic test of values, how much deeper is the demand that in philosophical and religious thinking we should start with the hypothesis of moral and spiritual solidarity in the cosmos, the universal reality of mental, moral, and spiritual values in the experience of man. If we are to consider life as it is there is no other way. As there can be no scientific thought without the scientific assumption of universal law, so there can be no true explanation, religion, or philosophy of life without the assumption of the universal reality of human values.

[1] We speak here from the empirical standpoint of science itself rather than from that of philosophy. From the standpoint of philosophy, law bears with it no *necessity*, but may be looked upon as a uniformly acting creative will. Even under this view, the uniformity is essential to scientific practice. If the forces of nature were capricious and the phenomenal orders of succession were frequently reversed, or if it were impossible to state the causal order, scientific knowledge would be impossible. It seems clear that science is dependent upon the assumption of order somewhere.

It is certainly bad taste if not bad faith to cling to an assumption as the foundation of science, and to deny to religion the fundamental religious assumption of the existence of God, or to philosophy the assumption of intelligent world-ground as a starting-point.

The denial of the reality of human values has arisen from an exaggerated notion of the certainty of scientific demonstration. Extreme claims have been made that scientific demonstration provides the only basis of certainty. From this the easy assumption is made that all experience resting on any other ground is false or illusory. Such confidence could never have arisen if there had been a thoughtful criticism of the nature of scientific proof. At best, scientific demonstration is limited to appearances. It cannot enter into the essence or nature of things. If it be said that things have no essence but only activities, then the most that science can affirm is that these activities are thus and so, under certain conditions, but it has no right to declare that there are no facts other than these activities. In truth, while denying it, science does assume reality beyond the activity, and many who profess conscientious adherence to scientific fact are perfectly satisfied so long as the essence behind the activity is assumed to be non-purposive, unintelligent matter. If some one asserts the "essence" behind the activity to be purposive intelligence, then there is a great outcry against what is declared to be unsupported fact. The scientist, indeed, has no more right to be a materialist than an idealist. Neither of the foregoing presuppositions is scientific; both are philosophical.

The field of scientific demonstration, when understood, is limited then to "activities and relations" rather than to essences, or at least to what can be learned about the essence of anything from its activity and relation. When we come into the field of human values, demonstration of this kind is impossible. We get the activity of electricity,

for instance, through the overcoming of resistance, the work it will do. We are thus permitted to express it in a term of relation, that is, in foot-pounds of energy. All the demonstration that is required is lifting power. But when we come to such human values as honor, integrity, justice, truth, patriotism, love of family, and social values, we have not the same means of demonstration at hand. This is not to overlook our friends who would reduce all these, as psychic reactions, to terms of foot-pounds of energy, chemisms, and affinities. The main difficulty with such terms, even though we get them, is that they are not uniform nor universal, nor related to scientific fact, and are therefore of doubtful value. One is not interested in discovering the number of foot-pounds of energy represented in the love of a little child; to do so would be to forfeit the love and to miss its significance altogether. To show the scientifically undemonstrable character of the human values is not to show them unreal or illusory, but simply to designate them as in another field of demonstration. Though not demonstrable scientifically, they gather and prove their value out of life and experience.

However undemonstrable human values may be from a scientific standpoint, yet they are the values that give worth and meaning to life. They are the supreme interests in spite of every effort to ignore them. The finer loyalties in the world in which we live are forever superior to the most startling of scientific facts. The heart of a friend means more as an earthly possession than all physical wealth without it. The mere opportunity to work, to take and fill our place in the social order—for what physical consideration would a real man barter it? There are those who will betray friendship for a price, but we esteem their lot lower than that of the beasts that perish. Patriotism may be thought a mere sentiment, but to the

greater number of living men and women it is more important than selfish gain, however great.

Upon such loyalties, such integrities, and sentiments, is the whole social structure built. It makes possible political institutions that protect the individual in his rights and maintain for all an equal chance. Any oversight of the practical reality of these values impoverishes life and so divests it of meaning as to make it undesirable to live. The loss of life itself is felt to be a slight matter as compared with the loss of character. Ours is a time when these facts by which we live, for which we stand ready to die, and which alone survive the passing and changing order should be set forth in their deep significance. The progress of civilization is not measured by scientific discoveries, by the skill of artisans, or by its complexity and wealth of physical possessions, but rather by the esteem in which are held these finer values. For these are supreme and mark the heights of human achievement. They are not supreme merely for a moral content, great as that is, but they are supreme as furnishing the only adequate ground for civilization, for society, and even for the preservation of knowledge, education, and the results of science itself. There are a host of people who, while gladly seizing the benefits which accrue to them through the provision made by the common faith in religion and these human values, waste much of their energy decrying those very things upon which all the blessings of their days depend. It is quite time that men at large should come to a better mood.

And, after all, there is another consideration: scientific "facts" are meaningful and real to us largely from the standpoint of value. They are themselves values of a lesser order. Scientific facts are of moment to us first because of their utility in enabling us to master our world and thus adding to the usefulness and joy of living, and, second, because of the insight they give regarding the

common relations under which we live. That men should give long hours of toil and endure real sacrifices in the interests of scientific discovery—for science has its martyrs no less surely than religion—is entirely unjustifiable except from the standpoint of the human values to be achieved. It is forever to the honor and glory of science that along its way has shone the bright hope of human betterment. It is because of the loftiness of this ideal that men have felt the call to scientific research, sometimes from motives as lofty as ever came to any of the saints. The absence of such ideals from scientific research would not only impoverish the history of science, but would render its future advance problematic. Without the presence of moral insight the advance of science becomes the menace of humanity. Morally untempered, it promises only universal destruction to that fragile plant which we call human life and civilization. It is needless to point out that, though facts might remain after such devastation, science itself would be destroyed, if not forever, at least until the birth of a new race whose moral achievement should walk hand in hand with their scientific progress.

If this be true, and who can doubt it, the dependence of science upon the final test of the human quality of its values becomes complete. Here lies, it seems to some, the true "reconciliation" between science and religion, for both must pass through the same little door of social and moral justification. A science which works and lives unmindful of human society would be a menace to the common life and welfare. Science, like religion, must be forever on trial, and must justify itself by its contribution to the common welfare. Even facts have a profound moral significance in a personal world. They possess relational value. They are powers for moral use. Religion, too, cannot avoid the ethical test; with every new generation it must continually prove its validity, not by citing his-

toric authorities and past revelation, but by its ability to contribute to the social order. A science and a religion which make life more worth living will abide forever, and if either science or religion, falsely so called, does not stand this test, they must pass away under the exigencies of life itself.

SUGGESTED READINGS

ALEXANDER: *Time, Space and Deity,* Vol. II, pp. 236-314.
BALFOUR: *Theism and Humanism,* Lectures III, IV, V.
COLUMBIA ASSOCIATES: *Introduction to Reflective Thinking,* Chapter IX.
EDMAN: *Human Traits,* Chapter XV.
JONES: *A Faith That Enquires,* Lecture XIII.
MACKENZIE: *Ultimate Values,* pp. 91-154.
MÜNSTERBERG: *The Eternal Values,* Part I.
SORLEY: *Moral Values,* Chapters VIII, IX, X.
URBAN: *Valuation, Its Nature and Laws.*

Chapter XXVI

WHAT IS TRUTH?

Distinction between truth and knowledge—Truth the more inclusive term—Knowledge is of things we see, truth includes the larger world of relations—Truth is fragmentary either as knowledge or as insight, due to the limitations of human mind—Truth becomes a human value by reason of faith, spiritual insight, as a cosmic outlook—The indissoluble connection between faith, and truths, and the exaltation of the human spirit—The intuitional element in the apprehension of truth—Mysticism, being *en rapport* with scientific fact, nature of the world, the prophetic element in science, spiritual single-mindedness—The forces making against apprehension of truth—Bigotry, prejudice, aversion to facts and readjustments, self-interest, evil-mindedness, and immorality—Never can be any real conflict between knowledge and truth, although there may be between knowledge and belief.

The question "What is truth?" has been trite since Bacon's famous use of it, but behind the triteness of it and behind the eternal mystery of it there is a profound fact. Neither Pilate nor Jesus could answer it verbally and categorically, because it is a question which can be answered only in life. Pilate gave us his real estimate of truth when he formally denied responsibility for his own acts by washing his hands before the multitude. Jesus declared it by the way he went to his cross. In a world of life, truth can never be static or dead. It must be living, growing, and changing. No one has yet been able to seize it, to state or embody it except in terms of life. Living truth or lived truth is really the only kind of truth that has a chance for survival. One cannot but feel that this is the meaning behind the declaration of the Great Teacher, that he *was* the Truth. Truth can never be separated from

living experience; in fact, it is apprehended only in living experience. As in the appreciation of a picture, lectures on art appreciation may help toward, but they cannot create, a true understanding. The individual must seize the meaning by a kind of realism which springs out of his own experience of life, his deeper understandings. If he has had no such experiences and understandings, the spirit that fired the mind of the artist remains uninterpreted. Something like this is the case also in the apprehension of truth; it is a living experience.

With this thought of the nature of truth in mind, it becomes evident we shall need to distinguish between truth and knowledge. Truth is the more inclusive term. Knowledge is of things we observe; truth includes the larger world of relations. It would be well if we could retain this distinction, for much confusion has arisen in the thinking of men because they have tried to make the words synonymous. Again and again truth and knowledge have been identified; again and again the effort has been made to narrow truth down to knowledge, or to make knowledge include all truth. This futile effort, repeated in every age, has lighted the martyr fires of history and is the fertile source of present misunderstandings between science and religion. When the scientist lays claim to the empirical method as the sole source of knowledge, he is correct, but correct only for a limited field. Observation, experiment, are the means of acquiring what can properly be classed under the term knowledge. We thus get the world of phenomena with its orders of succession, which we inaccurately term causal, and its uniformities of activity, which we call natural laws. This type of knowledge which comprises the field of science is committed by its very nature to the phenomenal. It cannot in keeping with its own character and postulates enter into the question of what lies behind or what grounds these natural

phenomena. It can ascertain how things act under given circumstances; the nature of things, apart from their activities, is forever a closed book.

While knowledge is limited to known or discoverable physical phenomena and their relations, truth includes the whole universe of moral relations, values, purpose, efficient causation, and ground. In this field certainty is of a different order than in the field of science and knowledge. Let us recur to the illustration of the picture. The truth of the picture is measured in terms of value, its effect on human emotions, its value to the aesthetic sense, the worth of the idea conveyed, its result in ennobling life. These are the truths of the picture which if they are gotten must be directly apprehended. They cannot be measured in terms of the weight or texture of the canvas, the amount and variety of oils and colors; even a prismatic analysis and psychological tests would fail to reveal the truth of the picture. It represents truth that must be lived and which must be apprehended, and the results will be as various as the personalities of the people who behold it.

The man who is sure there can be no truth except that of physical measure and scale, the knowledge with which science is fitted to deal, will, of course, find such reflections as these a mere wearisomeness and absurdity. Indeed, the whole field of truth might well be discarded for what is to him the more certain world of scientific phenomena, were it not for the fatal fact that this other world of truth contains everything about which it is worth while to quarrel, or upon which to spend one's life, for which to live or to die. From the appreciation of art, architecture, and literature to the most exalted reaches of ethical action, patriotism, world-vision, and religion, this realm of truth includes in its sweep everything that is worth while for man. To discard it in the interest of the narrowed knowledge of the field of science would be to throw away the

world of vaster importance, and to render life both meaningless and undesirable. It is the inspiration that flows from this deeper source which in reality makes possible all scientific research and discovery.

But, by this time, some one will be growing restive with the feeling of uncertainty regarding truth. One demand the human mind insistently makes; it desires rest, content, calm, and this calm it seeks by requiring that all truth and knowledge be within its compass, carefully labeled, and beyond power of change. None of these things can be achieved in a living and changing world. The requirement made by the mind is not in line with its own function of growth. We make the demand because of mental laziness and our dread of the unknown. Must truth, we ask, continue to be partial and fragmentary? Can we never compass it? The babe might equally well ask, before he is a yard long, if he will never stop growing. Truth is part and parcel of life, and if there is to be continued life in the mind and soul of man there must be continually growing apprehension of the truth. That our truth is but fragmentary and partial is not a fault of truth itself; it is due to the limitations of the human mind, the incompleteness of that which can live only as it changes and moves toward completion. Fear of the unknown makes the mother wish she could keep her child a babe because she has thus acquired a known satisfaction in him. That wish really fastened upon the child she would quickly regret as a calamity. We deplore the struggles of life, and yet without them life becomes valueless.

The realm of truth as value, becomes then the most important field of living interests, for it is the realm in which is given us to try out our capabilities, to realize ourselves as personalities, and to reap the rich rewards of life. We may complain of the uncertainties here, but it is the uncertainty, the insistent call for adventure, that makes

life the intensely interesting thing it is. The task of life may well be conceived as a discovery of these values in their varied relations, and their application in everyday affairs. We have no absolute revelations; we must find them as related to ourselves and our duties. Because moral truth is of this pragmatic and uncertain nature everyone has to achieve it for himself. He cannot receive it from others; he can only be guided by them to its apprehension. Life itself means that we are discovering our true significance socially, individually, and cosmically, or we are missing man's unique opportunity. Truth becomes a value to us only as it becomes to us a matter of faith, of spiritual insight, and of apprehension wrought out in living terms. It becomes thus a cosmic outlook in which we see ourselves, our nation, our race, our world in its multiplicity of relations. Is there no certainty to this? We are working out that certainty through the growth or progress of civilization. Is there no reality to this? It is the most profoundly real fact of existence, that for which all other things exist and, in the end, that by which all other values must be judged.

Religion like all social relations is not therefore less real than facts established by scientific demonstration. It is not therefore less certain or less secure. Its reality must be measured by its importance for life. It is exalted to its place among the other realities for which the cosmos exists. Righteousness, honor, integrity, heroism, the martyr spirit are not degraded nor made unreal because we cannot express them in foot-pounds, kilowatts, or bushels. It is only the thing of small consequence that can be so measured. All those fine values which are the crown of civilization—art, sculpture, architecture, music, and literature—are not, as our too prosaic and material age has so often assumed, to be relegated to the kingdom of misty unreality. They are the deepest evidences of reality, the profoundest tokens

of life and truth. There is then an indissoluble connection between faith, truth, and the exaltation of the human spirit.

The realism necessary to apprehension of truth which has just been touched upon will be immediately recognized as akin to the Bergsonian doctrine of intuition, and intuitional it is, if by that term we mean that apprehension which follows in the wake of human mental capacity. That is to say, there is no profound apprehension of our world which does not contain an element of mysticism. Mysticism as thus used must include more than we ordinarily imply by the term. It implies fundamental cosmic sympathy. Being *en rapport* with facts gives scientific insight and leads to scientific discovery in spite of all denials. Being *en rapport* with beauty makes aesthetic judgment possible. Being *en rapport* with God provides the insights of spiritual or religious feeling.

In all these fields the individual by careful effort can greatly increase the extent of insight; the scientist by widening his knowledge of nature through investigation, the artist by the advance of skill and study of artistic appreciation, the religionist by reflection upon and acquisition of habits of righteousness and obedience to the divine Will. But the moment of insight, scientific, artistic, or religious comes to the seer like a revelation, sometimes of the cosmos, sometimes of his inner self, and sometimes of God. Putting one's self in tune with scientific fact is to put one's self in tune with nature and to provide the basis of scientific insight and discovery. In the realm of religion it is what is called spiritual single-mindedness: "If the eye be single the whole body shall be full of light." Thus it is that truth becomes a thing wider than knowledge, a matter of the whole scope of relations, an illuminator of the field of knowledge.

It will then be seen that in any field the forces hostile

to apprehension of truth will be largely forces under the control of the human will. We speak frequently of nature as if she were loath to give up her secrets, as if they had to be dragged out into the light. The scientist on the contrary has no forces to contend against which are at all comparable to those that arise within himself and others. Science is delayed by disloyalty to scientific precepts, by the prejudice of acquired and traditional viewpoints, by the coldness of scientific unbelief, by ruling presuppositions and dominant hypotheses. In scientific as well as in theological thought, we witness the refusal to face facts in a new way. The refusal to make readjustments of theory and hypothesis, before the need has become an intellectual or an ethical scandal, is one of the most certain facts in the history of human ideas. If there were in our own age a complete willingness to open our minds to all facts despite any prevalent theories, and our souls to the complete revelation of God in human duty, the progress of civilization would take a startling and inconceivable jump forward. Every instance of prejudice and pride of opinion, every unwillingness to face facts, every hostility to necessary readjustments, every instance of blind self-interest or evil-mindedness, or even of immorality, is a block beneath the wheels of progress which keeps us back from scientific, social, and spiritual achievement. We do not live in a compartment world in which science can be indifferent to the realities of the spirit, nor where religion can despise or ignore the truths of science, nor where aesthetics can be indifferent to either. Indifference of any field toward the other means a slowing up or a quenching of the forces which make for a better and fuller understanding of truth.

Reflection makes increasingly clear that in our world of relations there can be no real conflict between science and religion, or between knowledge and human values. A science which relegates values to the field of unreality dis-

plays the intelligence of the moron who discards the corn for the husk. A religion that fears any truth which science can discover is not only uncertain of its own ground but is essentially irreligious, because truth, hunger for the whole truth, is the very heart of real religion. Any religious man who believes in the truth of religion will willingly submit it to any investigation demanded, realizing by faith that truth can easily withstand any assault that can be made upon it. Only between knowledge and belief can there be conflict, and belief is always the sufferer if it places itself in the position of being hostile to facts. Knowledge and truth can get along only by walking together. Science and religion are necessary to each other.

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JAMES: *The Meaning of Truth*, Chapters III, IV, VI, IX.

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Chapter XXVII

KNOWING GOOD AND EVIL

The relativity of goodness not an uncertainty but a source of character—If it were not relative it would not fit life and progress—The good not to be measured by a short-sighted utilitarianism nor alone by the pragmatic test, but *"sub specie aeternitatis"*—Obviously, the good, like truth, is never a possession but always a quest—Neither Good nor Evil existent apart from moral activity in God or man—Their actuality lies in their being moral choosings—Good and evil not to be identified with their mere possibilities—The possibility of good and evil gives meaning to character—The only rational ground for ethical achievement—The moral goal of the world—Both man and God reach to spiritual achievement through creative activity.

The concept of the relativity of goodness has been a fertile source of ethical skepticism since the beginning. The human mind strives to view the good as a solved problem and looks askance at the fortitude required in finding its own solutions. It is thus satisfied to receive as good whatever is announced as such by the voice of social environment, by religious institution, by social habit or custom, or by sacred book. This tendency is all but universal; it is a sign of ethical laziness but it is neither pious nor creditable.

Of course, there are plain advantages in having our good distinguished for us. If we accept the good as laid down by social environment we are saved the discomfort that arises from social conflict. "Everybody's doing it," is the easy password of ethical laziness. If we accept the dictates of goodness laid down by a religious institution we have the safeguard of the longer history and of proved general aims, and we are saved the discomfort of applying

the ethical question to the acts of life. We do whatever the institution declares to be good and we refrain from acts it declares evil, but we pay the price by loss of moral freedom, which is the supreme element in ethical action. We do something of a similar nature when we pin our definition slavishly to any written authority; for there is constant need for reinterpretation of the written in terms of life, in which new circumstances call for the application of living principles.

Now the fact that in actual human definition and achievement goodness is relative rather than absolute has been a stumbling block to many minds. It has been argued that if the good cannot be absolutely defined once for all, if it is to be a continuous reapplication of principles to changing conditions, such ethical uncertainty is too great for the guidance of the individual. It is declared by some that under such circumstances the good becomes impossible for the individual. From this it is an easy descent to all sorts of skepticisms and sophisms, wherein the good is held to be whatever is most useful for the time or the occasion, or most profitable to the individual. Such skepticism has extended to the denial of the existence of any moral norms. As with Spinoza, the bad has come to be looked upon as not so bad, but as only a necessary shadow of evil. "There's so much bad in the best of us and so much good in the worst of us" that it's best not to make any speech about it. This tendency just at the present time presents one of the most striking menaces to our institutions of civilization. Why cannot we get rid of this haunting uncertainty about what is good and right? Why might not the good be forever laid down in words unmistakable and beyond cavil? The answer, if answer there be, must be found in terms of character. It is just the necessity for individual application and judgment, the venture in the interests of the best, which relates goodness to character.

A goodness which was not relative to time and circumstance and individual would not be applicable to life and a changing world. Such a goodness would be forever set and quickly achieved. When once achieved by society no growth in goodness would be possible. Goodness is fitted to life and to growth because it is a sort of flying goal which grows along with moral achievements, making those of today inadequate for tomorrow. One might not be quite willing to subscribe to the ancient dictum that this is the best of possible worlds, who might yet see that a world in which the good were less relative would be a world in which goodness would be less dynamic, and in which character would be impossible.

The character of goodness will be discovered as inseparable from action. It is not a stored-up thing, but an activity of self-realizing personality which chooses good as over against the evil or the less good. If the good is so individual, not to say precarious, a matter, depending upon the fleeting choices of men surrounded by change and themselves changing; if time and change make the good of today uncouth by tomorrow, have we no standards, no abiding principles by which to judge it?

There are several answers to the question both ancient and modern, some of which, such as hedonism, we must omit from consideration. One of these is the answer given by all types of individualistic utilitarianism new or old: Anything is good which is useful to the aim or purpose in mind. This theory, now popular in the new dress of behaviorism, was once stated under the old proverb, "The end justifies the means." "That is good which works" is a principle, the enunciation of which marks advance in philosophical criticism of the idea of goodness, but it is more or less futile. We cannot be sure that what works is best unless we are sure that the metaphysical ground of all things is both intelligent and righteous. In a world

which proceeds from intelligent and moral personal cause, only that might eventually "work" which was in keeping with the cosmic order. The principle of relativity in human goodness can be readily admitted if we fortify ourselves against solipsism and sophistry by making it a part of the cosmic order. There are standards of moral action as universal and as binding upon moral beings as the cosmic law of attraction. That this truth has been hidden from us is due to the fact that for the most part we of the present age have denied to goodness any cosmic significance. We have been particularly blind to the fact that in our scientific knowledge, as well as in our moral relations, we are all the hostages of time.

If we break the terms of the agenda with a cosmos that looks to moral achievement as a part of the universal relations, destruction is our portion. We may grow resentful at the thought that there are any absolute or inexorable commands of God by which we must judge our moral action. Very well, then; let us for a moment ignore God and speak of the cosmos, in relation to which we all must live. We have our own inner nature always to reckon with. We have then this inner moral consciousness which we cannot deny and we have this exterior Cosmos which provides the conditions under which the inner identity must realize itself. Obviously this communion cannot come to highest fulfilment except as what is highest nature in us works in unison with what is highest in the general order. Any transgression of that order means an atrophy or perversion of our selfhood. Without a God and with only a Cosmos we are in the presence of inexorable laws that know no mercy and bend in nowise to our human weakness. The universe works with the obedient man and destroys the disobedient, with that purifying disinterestedness with which the elements destroy, whatever might have lived but is now only pollution. This demand

for merciful personality in the cosmic relations is the result of the profoundest thought of man respecting the universe. It is not, as some of our friends assert, merely the weak and anthropomorphic survival of magic and animism. There are norms of action which are cosmic. We do not make them. We find them out as we can. We practice them as we can. Neither our notion nor our practice of them is perfect nor absolute. We live in the light of growing truth, and life is a constant readjustment to that growing truth. Our goodness then is for us of a pragmatic sort, but it is also of the very nature of the universe itself. This is the high type of moral pragmatism to which we must come through a mediating personalism, but professional philosophical pragmatism has not yet made the necessary metaphysical assumption. Without the theistic assumption pragmatism offers no tenable ground for the definition of the good. Goodness must contain the eternal element in order to make it satisfy the value demand of the human spirit. It is something more than that which is useful or that which works. It is that which offers no incongruity when we view the world relations under the aspect of eternity, or, as the ancient philosophers put it, *sub specie aeternitatis.* Whatever other test we apply to goodness, this is perhaps the most essential: Is it good in all the relations of life, and in the largest relations of life? That is, is it good as viewed from the highest and completest end and goal of man?

Under such a definition the limitations of human relationship and of individual effort may seem overwhelming. Even so, goodness presents to the individual a challenge which is thrilling. The good becomes obviously not the possession of any one of us even at his best. The good is not something which one can keep, in which one can remain. If one settles down with the good already achieved, it spoils and festers as surely as the decaying

manna laid up in store by the unfaithful Israelites. To be good is to live. It is to move on to larger applications of good, to new orders of life. To be good is to grow in comprehension of the good. To be good means to go on to the better. It means to travel ever toward the best and ever to find it better than we thought, at least so long as the limitations of human relationships shut in by space and time shall close it round. Goodness then, like truth, is not something of which one can say "I have it!" To possess the good we dreamed is to feel the urge to a better. To stop with the good already achieved is to choose the less, and the lesser good is the greatest enemy of the good. Like truth again, goodness is not so much a possession as it is a quest.

If the good is less a possession than a quest, it is apparent that goodness is in essence an act of moral choice. If an act of moral choice, then it exists only through the acts of free moral beings, God and men. Can good or evil then have existence as other than such moral choosings? There is a common assumption that they can. We speak both of evil and of good as if they had separate and abstract existence apart from moral will. We need to ask ourselves what would become of all the good or evil influences in the world apart from the good or evil acts of moral beings. We find them utterly unsubstantial and illusory. There are good influences undoubtedly, as there are also evil ones, but these good and evil influences reach the world of life through being incorporated or incarnated in human lives. This fact is the best possible argument for the perfect moral incarnation of God in Christ. Until Christ came the goodness of God reached the streams of human influence only partially, being but darkly understood. In the life of Christ we have the full light of God. And the Eternal Goodness became a new power in the life of the world through that moral incarnation.

We are not then to fall into the mistake, so frequently made, of confusing the possibility of good or evil with the actuality of good or evil. The possibility of evil may very well be demanded as necessary to moral choice and the existence of moral character, but the *possibility* of evil cannot be safely held as implying the *necessity* or the *existence* of evil, as is so often assumed. Evil may be possible but not chosen, and so long as it is not chosen it does not exist. Herein lies the fact of moral freedom, of character, of moral responsibility, and the foundation of society itself. It has this further importance to theology, that it opens the philosophical door which frees us from the assumption that evil is as eternal as goodness and cannot eventually be overcome. The possibility of good and evil in a realm of freedom gives meaning to character. It presents likewise the only known rational ground for ethical achievement.

Moved by such considerations as these we catch a vision of goodness as the moral goal of the world. Man surely is, and God may be, reaching a satisfying spiritual achievement through creative activity and continuously righteous moral choices. Until man himself shall arise to full understanding and completeness of soul, the whole world may be truly represented as "groaning and travailing in pain." When man shall come into something like the fulness of his moral and spiritual possibility, the world will take on a newness of life, of meaning, and of power which to our days of weakness and wandering is inconceivable.

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SCHOPENHAUER: *Studies in Pessimism,* pp. 1-39.

Chapter XXVIII

THE CONTRIBUTION OF FAITH TO LIFE

Relation of Faith to moral ideals and achievement—We can rise no higher than our faith—Faith in the common affairs of living—Gives stability to human effort—Makes life possible—Inspiration of scientific research and mother of invention—Relation of faith to the creative imagination—Loosens the inhibiting forces—Faith the unique possession of creative self-consciousness—Given with the power of reflection—Faith in highest sense intuitional and grows out of true adjustment with life and the universe—Faith never to be confused with dogma, creed, or belief. Faith is an act by which we enter into the world that ought to be—Unrealized faith—Has still a creative moral and spiritual value—Goes past the life and achievement of the individual and sets the mark for the race—Faith, in so far as it takes hold upon eternal values, cannot fail.

The relation of faith to moral ideals and achievement has been so long recognized and has become so completely a part of theological doctrine as to need no more than passing mention in a work of this character. The quality of religious faith, the conception of God, and of man's relation to God will inevitably determine the ethical achievement of the individual. Not that faith can be identified with ethical acts, but the ethical acts will hardly rise higher than the faith.

The term faith is used here not in its narrower sense but as meaning in general the hope or confidence or trust in the as yet unrisen or unachieved. This is a common and justifiable use of the term. When the aeroplanist trusts himself to the air, or the sailor to the sea, there is something about the venture that partakes of the quality of faith. When the scholar believes he can master his

subject, or the architect ventures on a new departure in building, or a man dreams of an ideal achievement toward which he works, he is exercising that faith which is so necessary to the common affairs of life. Faith in one's fellow-men makes possible the whole world of banking, credit, and trade, and underlies the vastness of proportion which modern commercial activity assumes over that of the ancients with their caravan lines and pigmy ships. It is the existence of this faith which gives stability to the efforts of man in his progress toward higher civilization, social organization, and government. All would fall into a chaos if anything should happen to render this universal faith no longer possible. Faith in the universal applicability of natural law, in the power of the human mind to comprehend it, and in the contribution which scientific discovery may make to human values provides the inspiration for scientific research, and is the mother of invention. Such is the necessary and obvious part which faith plays in the lives of men.

A field, in which the relation of faith to life is not so clear and may not be so readily granted, is that of the creative imagination. Here there has been little research study done, and few attempts have been made to show the connection which exists between faith and the creative imagination. We venture to say, however, that the relation is a profound one and will yield richer and ever-growing results for the reflective investigator. To take the matter from the side of psychological fact, much stress has of late been laid upon the dire results of psychical inhibitions. The ways in which strong emotions, such as fear, paralyze the springs of physical action have become the commonplace of the psychological tyro. But if fear can so profoundly affect the muscles as to prevent physical activity, how much more can unfaith or unbelief cut the

cord of action in the more delicate and profounder field of motives and of psychical activities.

It is not remote to discover that faith loosens inhibitions and opens up a whole new world of ethical and moral action and, furthermore, of creative achievement. Many a man has marked the beginning of an educational or business career from the moment of religious conversion. His new rapport with life has provided a basis of confidence which has enabled him to move forward to achievement previously regarded as impossible. The feeling of confidence in the universe and what lies behind it, in the surety of one's own relation to it, in a Divine call for commitment to great tasks, becomes a powerful stimulus to the creative imagination, which lies at the basis of all true accomplishment. Faith of some kind is necessary to any creative achievement, and the stronger the faith, that is, faith which is in keeping with the nature of things, the greater the degree of accomplishment there is likely to be. While faith of the lesser order is good in its own degree, faith of the larger order, faith which takes in its sweep universal relations, God, man, and eternity, is requisite for creative work of the highest type.

The fact that faith is the unique possession of creative self-consciousness is of the utmost significance. Faith is possible only to a being who possesses the power of self-criticism and reflection. Consequently it is impossible ever to separate real faith from the work of the intellect. Faith to have real content cannot be a blind acceptance of other peoples' opinions. Only that has a right to the title "faith" which appeals to reason and which does not conflict with the known order of things. He who commands belief contrary to reason is not only attempting the impossible, but he is laying the basis for unbelief. Our faith arises out of our power of reflection upon our own acts.

Thereby we are able to discover their ethical quality and arrive at a sense of moral responsibility.

Through this same power of reflection we become conscious of the deeper side of our relation to the world of nature and of men. From the same source arises our conviction of God. All these are intimately bound up with the content of faith. We foresee the ideal relations between ourselves and our world, between ourselves and God. This process is what we mean by creative imagination. It is the first step toward any achievement. And so great a power does it have over our course of action that special facilities seem to be provided for our becoming what we dream and ponder and work and pray to become, sometimes by gradations so unconscious that arrival is a surprise to us. This accounts for the modesty of the genius, who is an authority to his fellows long before he thinks of himself as authority, and for the blindness of evil men who do not realize that the dream of wickedness which they entertained far in the background of their intentions has quite come true. As of old, the one class is sure that it never ministered to the sick, or imprisoned, or hungry, or naked—it has dreamed of so much completer and more ideal service; while the other class, those who were guilty of neglect, had never been conscious of any duty to perform.

So completely does faith imply a true adjustment to life and to the universe that it quickly becomes habitual and, in the highest sense, intuitional. How quickly the movements of the bicyclist become established in habit and so instinctive or intuitional![1] He can never become a good

[1] Here again the author is quite conscious of offense against the nomenclature of modern psychology, but is at loss how otherwise to express his opinions. The difference lies in a point of view so fundamental that it forms a plain contradiction between the ordinary psychology of the schools and Freudianism. The one has become increas-

rider until his movements to control the wheel have become unconscious or are at least in the region of marginal consciousness. Habitual clean thinking and modest action make safe the intuitional action of decent men and women under the spur of sudden decisions. A man is not quite safe morally without this background and when he has to be too conscious of the righteous character of moral decisions there is danger. That faith which is to be the guide of the creative imagination and yield the highest success in life must have been placed by habit in the intuitional field.

It will be seen that faith in the sense in which we here use it is of a highly practical nature. It is an affair of action. It is an act by which we enter into the world which ought to be. It is not to be confused with dogma, creed, or belief, which frequently are held in a wholly academic and unpractical way. In business faith is actually accepting the checks which people write and generally acting as if they were honest. Faith in one's mental powers is not a proclamation or a dogma; it is an act of using one's

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ingly physiological, making the stimuli external and causal to thought, the other dwells on "the wish" as the source of *physical* derangement. As a philosophical spectator we care not to mix in the battle. Both sides have elements of truth and there is much unclearness. Might not a plain and unpsychological person use the term "instinct" as something laid down in the physical responsive processes and therefore modified by habit as the use of the right arm modifies the muscles. And might one be likewise permitted an unscientific use of the term "intuition," as having this sense superior to instinct, namely, that intuition is the response of a reflecting intelligence. Some day the whole field of terminology may be cleared, but alas, if one were to wait one must for this present life keep silence. We draw upon ourselves the anathema of both parties to the conflict by assuming neither is altogether correct. We here speak then of instincts as springing from a natural exercise of organs fitted to function in a certain way and quickly passing into habit. Of intuition we speak when we refer to habits laid down by the consciously coöperating will of a reflecting personality.

mental powers as if they could be trusted. In religion faith is not the academic statement that righteousness is the correct thing; it is acting righteously and as if one's confidence in righteousness were something to live by and to die by and for. Faith in God is an active acceptance of God as the guide of life and a display of trust by acting as if he did exist and were a rewarder of all men. We leave for other men to say what is the relation between such active faith and dogma, or creedal statement. We believe there is an important relation. The most important thing about faith, however, is not the statement of it, but the acting on it. If by believing we can do a thing we are enabled to do it, our faith has been justified in the only way possible. If believing in the goodness of God yields the highest ethical results in the life of men, belief in the goodness of God has been practically justified. It needs no complementary scientific demonstration. No scientific demonstration can render it invalid or more valid. Furthermore, any faith we have learned actually to make our own is removed completely from the region of doubt to the region of experience. We are never afraid of the overthrow of faith which has become a part of life. It is as much a surety as life itself. The faith we fear is going is the faith we have not actually experienced and which we hold only sentimentally or academically. There should be a renewal of emphasis on practical faith and upon its relation to life.

But is faith *always* realized? Within a given span of time, no! Is the type of faith which is too vast for fulfilment in this earthly life a sheer waste of powers? There is still its moral and creative value. But there is a deeper fact than this. No creative work in the world of business, politics, literature, art, or religion seizes upon the highest values until its reach takes hold upon eternal things. This is the standard of greatness we require in a picture, a statue,

or a book. Does it take hold of the invisible, the unseen, the everlasting? All works that fail in this die with the men who produce them. Whatever the individual may be able to dream that is too vast for individual achievement leaves marks which become goals for the race and set humanity forward in the march of civilization.

And faith, in so far as it takes hold upon eternal values, cannot be defeated. The greatness and the glory of human life is this, that it is possible for a man to tie up his life to matters of such moment to human progress that he leaves the race under obligation to continue and to realize his ideal. It may be a dream of social righteousness, of international association, of perfect color in art, or perfect line in sculpture, of abiding principles of truth, but if it have about it that which goes deeply into the nature of man, world, or God, it can never die.

SUGGESTED READINGS

JONES: *A Faith That Enquires,* Chapter VII.

LEIGHTON: *Religion and the Mind of Today,* Chapter XVIII.

SCHILLER: *Problems of Belief.*

STRICKLAND: *Psychology of Religious Experience,* Chapters VIII, XI.

WARD: *The Realm of Ends,* Lecture XIX.

Chapter XXIX

DEATHLESS PERSONALITY

Ordinary notions of immortality have centered about future reward and punishment—Belief in immortality sprang out of a common conviction of the permanence of moral decisions—The purpose of this study is to show that immortality is the reasonable assumption of a doctrine of personality and is set forth in what degree sustains theology, realizing that immortality has been brought to light not by reason but by revelation—Personality in highest sense a living adaptation to a moral and spiritual order—Of this moral and spiritual order there can be no doubt, both by the experience of individuals and actual outcome in society as presenting the most treasured human values—Deathlessness, power of continuance, quality of eternity—The life of the spirit is a growing adaptation to a spiritual order—In so far as evil personality puts itself out of harmony with life, the universe, and God, it is difficult to say where it would find place in God's universe for continuance—Interpretation by function—Personality as the highest achievement of the present order argues a permanence greater than that of matter or substance—The call for a higher world indicated in the seed and bud, a world to which it is possible to come, and so it is with personality that looks across time and change—Immortality is then a faith in the continuance of life—Physical continuance is provided for plant and animal in procreation—Without immortality no such assurance for the continuance of what is a higher order of life—Immortality without continuance of personality meaningless—Moral decisions personal; depend on the continuity of the individual stream of memories and moral choices.

Ordinary notions of immortality have centered about doctrines of future rewards and punishments, which sprang out of a well-nigh universal conviction of the permanence of moral decisions. This peculiar presentation of the notion of immortality has given rise to an emphasis which

has overlooked the fundamental nature and qualities of eternal life. It is not proposed to treat the subject in this connection from the theological standpoint. Belief in immortality springs out of certain assurances within the inner life of man, which arise out of revelation or intuition, or the demands of human experience, into which it is not here our province to investigate. The purpose here is to show only the philosophical phases of the subject, to discover whether or not immortality is a reasonable assumption, and on what grounds it becomes the reasonable assumption of a philosophical doctrine of personality. We hope therefore that a certain inadequacy in the discussion may be overlooked, in view of the necessity for these rather strict limitations.

How far, may we ask, does philosophy sustain theology, keeping in mind of course that immortality has been brought to light not by reason but by revelation, an intuitional insight which may be truer than all our faulty reasonings. Let us consider the whole problem from the general standpoint of personality, and from the particular standpoint of certain deathless qualities which human personality embodies.

Our definition of personality and immortality will be profoundly modified by our definition of life. What do we mean by life? To begin at the foundation, what is the meaning of life in its simplest form? At this vantage point there is little perhaps that distinguishes the organic from the inorganic. That little seems to lie in a power of adaptation. The organic, or life itself, has a power of separation from its environment, a power of assimilation of its environment, and out of this the power to build itself, or its species, to something more. It is this power of adaptation, this ability to put itself *en rapport* with its environment, that constitutes the victory over dead and inorganic matter which we call life. We have purposely

chosen life at its simplest so that if possible we may lay hands more surely on the one distinguishing feature of life. We might perhaps then be allowed to describe life, however faultily, as a power of adaptation and conquest of environment.

Let us next seek to discover the applicability of our principle to higher orders of life, because personality must itself be part and parcel of the world of life. It may indeed appear from comparison and reflection that personality is the highest order of life. Let us inquire if personality is not in the truest sense a living adaptation to a moral and spiritual order impossible to simpler organisms. Any power to relate successions of events in such a way as to anticipate the future from events already present is, it must be admitted, a beginning of personality. The dog who anticipates his meal from the act of scraping the dishes has learned something of a relation between a continuously existing subject, himself, and his environment. Such an experience of personality, however, calls for the complicated organs of consciousness. There must be nerve cells and brain, and control of members in the direction of felt desire. But this is personality on the lowest plane. It is impulsive and automatic and on the plane from which a great deal of modern psychology is written. When we come to personality in man we discover a startling distinction from that of the animals. It has long been clear to philosophical thinkers that in human personality we have something more than reactionary response to impulses; we have an attendant awareness of our conscious states. This is the fatal omission which invalidates most of the conclusions of the animal psychologists. The dog who shows joy at the return of his master does so in direct response to physical stimulus. The servant who rejoices in his master's return is not only joyful but he reflects upon his joy. He may question its sincerity. He may

ask himself if his happiness in the master's return is worthy of him, whether it springs from motives of unselfish love, or whether it is pleasure in a protector, a provider, or a flatterer. It is exactly this mood which attends human consciousness, this reflective self-consciousness, or consciousness of consciousness, which distinguises animal from human personality.

We seem at this point in the evolution of life to be at a parting of the ways even more profound than that which we reached when we passed from the inorganic to the organic, from the chemical affinity of the inorganic to the assimilative and constructive capacity of the organic. In this power of reflective self-consciousness we seem endowed with a wholly new and different set of adaptive powers. Of course, it is true that an organism standing thus at the border line seems endowed with a power to enter the new field or to remain in the old. The simple cell enters the world of organic life by exercising its organic function or, failing to do this, it loses its privileged point of vantage and drops back to the lower and inorganic. So it seems quite possible for that being which stands at the point of vantage of the spiritual order to refuse to enter upon it and to reduce his activities to the lower plane of existence, with this remarkable difference, that in the higher order persons seem able to exercise a power of choice and their ability to do so is dependent upon the presence of reflective self-consciousness. To human personality alone then is given the power to follow the line of higher adaptations indicated by reflective self-consciousness, or by inhibiting these impulses to remain upon the field of the lower order. Apparently the highest type of personality is realized in an active and living adaptation to a moral and spiritual universe.

Before we pass to a consideration of the quality of immortality let us study the essentials of deathless personality.

In the first place, deathlessness or immortality means continuance of functioning power *on the part of the same self-conscious organism*. The undying, functioning organism can possess abiding unity only as the remembering, unfolding subject of experience. It must itself be the self-recognizing subject of successive experiences. Its deathlessness then cannot be held to lie in a non-renewal of its physical organism, as in the metabolism of our own bodies, but rather in an enduring self-consciousness. Immortality is thus seen as dependent upon the survival of a self-conscious subject of experience. In the second place, the great question which life asks is one of quality. Deathlessness implies worthy achievement. If any life is to continue anywhere it must continue not by arbitrary *fiat* but by living activity. Life continues by proving its power to continue. When a plant misses the object of living it dies. The case with eternal life is similar. It is eternal because it is eternally active. Within itself lies the reason for its continued functioning. It lives because it still has something to accomplish through living. If there shall come a time when there is no object for its functioning, it will cease to exist.

Now the life of the spirit, or immortal life, is a growing and continuous adaptation to a moral and spiritual environment. When it ceases to adapt itself, or when that adaptation is no longer possible, there is cessation or death. The only way it can end is by ceasing to function. If we hold to the immanence of God and the moral quality of the universe we shall find spiritual life to be a conscious harmonizing and adaptation of the personal will to the divine order. So long as a divine order shall endure then there is reason to assume that such beings as realize life through acting in that order will continue so to function and to grow, until they arrive at the fulness of perfect character. Thus the perfection of God and the ineffable

character of the Eternal Goodness provide a reasonable assumption for the continuance of that order of life which is already taking hold upon eternity. This reason is as profound as the expectation that under normal conditions the pistils, stamens, and ovary sack of the flower will produce the seed and that they in turn will provide the germs of future plants.

What is to be said of the organism which has a chance to function after a higher order and fails to do so? We have already seen that such failure means deprivation. Atrophy is one of the most tragic words in the field of biology. Its existence argues no blame upon the world-ground. Life must prove itself by living. No power, without the sacrifice of all rational meaning, could make eternal that which, standing on the borderland of eternal activities, refuses to act. Any order of life which is living by, or acting in harmony with, environments not limited to the temporal order, is not dependent on the temporal. If this be true, the establishment of the reality and worth of the eternal life here and now is the most reasonable assurance for the continuity of that life, after the temporal has passed away. As for life that has not entered into, or lived by, or through, the spirit, the most reasonable thing is perhaps to say that as such it has never existed.

But is there not in the moral realm a fruiting, or functioning of the power of evil? To some this will seem the question of supreme importance. The only reply perhaps that philosophy can offer is to point to the incongruity of ascribing eternity to evil if we are to assume the persistence of God. A universe could not long remain divided against itself. Life everywhere shows conquering power. And here again our answer will be according to our mood. Is it a universe of death or of life? If this is a universe of death, the theistic assumption is itself the most cruel of mockeries. There could be no object in prolonging the

capacity of evil to reproduce itself. Its only extenuation would lie in the direction of providing a further possibility for the weak and feeble remnants of a spiritual life to grow to normal goodness. How that could be accomplished without displacing the meaning of moral character as voluntary goodness is too deep a question for the human mind. In so far as evil personality puts itself out of functioning touch with the universe of spiritual values and self-realizations, out of harmony with life, the universe, and God, it is difficult to imagine where in the Cosmos it would find place for continuance, or why continuance should be desirable.

An examination of the sources of knowledge indicates that an unsuspectedly large amount of even scientific knowledge is an interpretation by function. In fact, our scientific treatises seem largely divided between two methods. They are interpretations either by description or by function. We do not know what the forces of nature are except as we describe their activity or are able to discover the principles or laws according to which they function. What electricity is we do not know. We describe it as a force in terms of its own activity or we set forth the uniformities of its activity in terms of its function. Surely when such is the case there is no call for protest from the scientific world when philosophy and theology apply the same method in their own field of human values. If the lower order of life does not disclose its essence or origin except in action, then surely it is enough if we are able to make similar tests for life of the higher type.

In bud and flower and seed we have clearly disclosed the promise of a future for the plant. That promise is as profound a truth about the plant structure as any other. He who omits it from his knowledge of the plant has missed perhaps the most important fact about the plant,

though it is only a promise of something that has not taken place, and his eye may never witness the process of propagation. Dr. John Watson somewhere discusses the application of this principle to the spiritual life of man. His exact wording is more or less forgotten but his argument was thus: I walk the edge of my inland lake and there discover a strange bird resting on its placid waters. Its mighty beak, wide spreading pinion, and strong sinews, however, indicate that it is no native of this quiet scene. It is only resting here for tonight. Tomorrow it will be gone into the mists and storms and wide expanses for which it is prepared to function. Though my own eye should never look upon the ocean itself, the very powers of the bird, its preparation to function indicate the existence of that wild waste of waters which is its natural home. Just as the call for a repeated world is indicated in bud, flower, and seed of the plant, so, if it can be shown possible for a man to live by a higher order than that of the animal, of physical impulse, of eating, and drinking, we possess in that fact of eternal life here an evidence for eternal life hereafter. The capacity to function according to a spiritual order, to set his own activities to a nobler note, is eloquent of continuance. As the plant by the creation of its seed demands the continuance and existence of a corresponding world for its completion, so the higher life of man, incomplete in the short cycle which we know, provides the unmistakable reason for a belief in immortality. Personality as the highest achievement of the present order requires a permanence greater than that of matter and the lower orders of life. To remove from our interpretation of human life the element of immortality is to deprive it of significance and to miss the profounder fact of the world-order.

Any attempt to deprive immortality of the personal element is to render it meaningless. This is evident when

we view immortality as an aspect of life. Life is a continuous adaptation of an enduring organism to the changes of environment, a process within a certain cycle to a well-defined end. The life of human personality is an adaptation to relations which may express human and moral values. Moral values derive character from the enduring nature of the subject of moral experience. Immortality, then, which is merely a survival of a man's work and influence after him, or a reabsorption into a Universal Soul, misses the substance and the moral quality of immortality. Moral decisions depend upon the continuity of the individual stream of memories and moral choices, a sort of residuum of individual moral acts. That individual who has already begun to live in that enduring field of correspondences, unlimited by space and time, has already begun the career of immortality. As the abiding subject of experience, his moral acts constitute the soul, and cannot be held to pass away without assuming a principle repugnant alike to science and to philosophy, the destruction of energy.

SUGGESTED READINGS

BOSANQUET: *The Value and Destiny of the Individual,* Lectures IX, X.

CLARKE: *Immortality,* Chapter I.

FENN: *Immortality and Theism.*

FLEWELLING: *The Reason in Faith,* Chapter X.

GORDON: *The Witness to Immortality,* Chapters IV, VII.

HORR: *The Christian Faith and Eternal Life.*

JACKS: *A Living Universe,* Lecture III.

LODGE: *Science and Immortality,* Chapters VIII, IX.

PRINGLE-PATTISON: *The Idea of Immortality,* Chapters IV, V, VII-X.

YOUTZ: *The Supremacy of the Spiritual,* Chapter XI.

Chapter XXX

THE SELF-RESTRAINT OF FREEDOM

Common notions of freedom—Freedom is the source of power in politics, art, knowledge, and life—Aesthetic power arises through freedom under self-control—So in government, power comes through freedom exercising self-control—Freedom never to be mistaken for license—True freedom found only with self-restraint—Freedom is then a true human value inasmuch as it cannot be divested of moral meaning—In freedom, art, life, history, all creative effort finds its apotheosis—Highest freedom possible only to highest good will, perfect holiness, God—Freedom and contingency in the world-order.

No word of social and political life is more commonly abused and misunderstood than the term freedom. Like other much used terms such as "orthodoxy," its definition is not standard but is made by every man after his own mind and thoughts. Thus freedom has been turned from its uses and made to stand for license, for looseness, for illegality and disorder, for tyrannies the most complete because the most irresponsible. Despite all this there is a widespread and profound feeling that freedom is the basis of law, politics, art, knowledge, religion, and life. Only because it holds so elemental a place could it have survived its numerous and time-honored perversions.

Experiments unnumbered indicate that the only lasting power in politics and government is based upon the principle of freedom. Autocrat and aristocrat, plutocrat and class democrat, each has felt that safety lay in enforcing his will as against all others. All have this in common, that each in its turn has insisted upon its right to rule the others. It is a perversion to call that a state of freedom where one class rules to the disadvantage of another. A

benevolent despotism may be more tolerable than an intolerant class democracy. In the long run, whatever kind of government has been tried has been found unstable to just the degree that it denied the largest measure of freedom consistent with the general or largest good. But it has likewise been found that no government can long exist which does not have the coöperative self-restraint of its citizens. Laws cannot be enforced apart from the desire of law-abiding citizens, and it is the preponderance of these that makes permanent the institutions of freedom.

Freedom is similarly the backbone of creative art. Trammel it to unreasonable convention and you have destroyed it. On the other hand, it would be a mistake to consider unrestrained freedom the mother of creative art. Art, like politics, achieves freedom through self-restraint. The beauty of the circle lies perhaps in the fact that it represents the greatest freedom under the most perfect restraint. No line of beauty can ever be gotten into mere wildness.

As in art, so in religion and life, freedom and self-restraint march together. No man can be made religious by outward constraint, whether it be of a political character commanding him to worship, or whether it be that more subtle form of constraint to an authorized creed which other minds have laid down for him. Any constraint which deprives him of the full right to come unprejudiced to his own conclusions denies to him the very possibility of religion. On the other hand, religious freedom does not involve the entertainment of loose opinion. The religious thinker is bound to self-restraint, he cannot discard the religious wisdom of other men and other ages according to his whim. He must give reasons for change. He must ever keep in mind what we fear has often been forgotten in the framing of theologies, the bearing of his belief on practical ethical values. Not he

who is cut loose from all conventions is best fitted to achieve religious freedom but he who feels most deeply the obligation to consider the past and the opinions of other men as well as his own.

Neither can there be true intellectual achievement without freedom. There was a day when the advance of knowledge was hindered by all sorts of statutory provisions, political and ecclesiastical. Men of the established order have usually feared the unsettling effect of discovery. Today, intellectual achievement is hindered principally by its own dogmatic prejudices. Science advances only by the setting forth of hypotheses which really constitute a cosmic philosophy. If these hypotheses prove valuable for purposes of classification they are frequently assumed as facts rather than more or less artificial classifications of fact. They then become a retarding influence in the field of knowledge until they are overcome and displaced by more accurate generalizations. Any science thus hampered cannot make fullest progress. There must be complete freedom from institutional domineerance if we are to know the truth. There must also be complete freedom from the preconceptions of science itself. At the same time there is a self-restraint demanded of scientific effort as important in its way as freedom. It lies in the respect of the individual scientist for the opinions and hypotheses of others which keeps him from ill-considered conclusions.

One common thread runs through the freedom in these widely separated realms of which we have been thinking. The restraint necessary to the achievement of true freedom is in all fields alike, not a restraint put on from above, but a restraint which springs from the self-consciousness of the individual, from within. If this be true, then freedom becomes a truly human value which cannot be divested of moral meaning. It does not exist apart from free individuals nor apart from self-restraint. Let us consider for

a moment the effect on freedom of unrestraint. Applied to the artist, the unrestrained line means lack of form and the death of art itself; applied to government, freedom for every man to follow his own pleasure implies the destruction of organized society; applied to science, it causes us to drop from strictly ascertained fact to opinion, for no one would feel the necessity for checking his opinion by the general body of knowledge. In religion, it would bring the descent to a mere emotionalism of an unethical character, having no deeper content than the religious exercises of the whirling dervishes of India. In ethical action, the loosening of restraint brings the decay and atrophy not only of ethical power but of ethical sensitiveness, and a loss of power for freedom. The individual as he yields to the abnormal, which is sinful, becomes less and less his own master, until at last he is under a galling slavery to evil. This is because freedom is not a physical possession but one of moral activity. This being so, the highest freedom is consonant only with the highest ethical achievement. Anything short of complete good will, of perfect holiness, and of God is something less than perfect freedom. Which is to say there cannot be perfect freedom unless there is perfect goodness.

We live in an age to which self-restraint is hateful. All our emphasis is placed on achievement. Restraint without achievement is nothing, but achievement without restraint is worse. What we need is achievement through restraint. The main characteristic of life in our age is too likely to be the lack of reserve power. We are too prone to expend all our energies, all our devices, all ingenuity on the problem of the passing moment. We are too prone to cut ourselves loose from the wisdom of the past. We lack that calm which abides ever where there are strong reserve forces. We feel so competent within ourselves that a Martian looking at our mental attitude might judge us

to be the first of our race. We are restless at lessons of history, and we despise the thought of other days. Moreover, we act as if our age were going to be the last; as if anything which could not be completed within our short span were not worth attempting. We have ceased to look at things from the aspect of eternity. The result is that we lack the reserve power to meet the unusual occasion, to top the hill of notable achievement, and we are living continually upon the verge of intellectual, social, and moral bankruptcy. We shall not be able to bring about the golden day of literature, art, government, and religion until we come to a new realization of the moral self-restraint which girds the sinews of freedom.

The discussion should not close without asking the question as to whether this freedom is anything more than a human value. Has it any right to be called cosmic? Is it found only in the exercise of human wills, or has it a basic place in the world-order. No problem is perhaps more perplexing today in the joint fields of philosophy and science. Is there contingency in the world-order? Is the succession in phenomena laid down automatically, and if so why? Are the laws of nature self-executing and inexorable? It is easy to say they are. But one takes the stand only by paying a great price. To commit one's self to non-contingency in the world-order is to vacate altogether the assumptions of evolution. Are the uniformities which we call natural laws established by accident? Then there is no purpose or end and there can be no freedom. Freedom, having no place in the cosmic order, would have to be viewed as unnatural. If we can assume contingency, an intelligence supreme to but working through self-prescribed uniformities, then and only then can we provide rational accounting for a world of evolving species and growing adaptation to environment.

Moreover, this Cosmic Intelligence, being free, must

likewise be moral and can find its perfect freedom only through perfect holiness. Thus much is the reasonable assumption of freedom. We meet with insuperable difficulties and embarrassments in any defense of freedom which does not assume it as a cosmic reality. Freedom in the individual argues freedom in the world-order and in God. If we deny cosmic freedom we cannot logically refuse to go the full limit of materialism and deny its reality in ourselves.

SUGGESTED READINGS

ALEXANDER: *Space, Time and Deity,* Vol. II, pp. 315-340.
BOWNE: *Metaphysics,* Part III, Chapter IV.
EUCKEN: *Life's Basis and Life's Ideal,* pp. 174-188.
EVERETT: *Moral Values,* Chapter XII.
GREEN: *Prolegomena to Ethics,* Book II, Chapter I.
ROGERS: *The Theory of Ethics,* Chapter V.
STURT (Ed.): *Personal Idealism,* pp. 134-192.
WARD: *The Realm of Ends,* Lecture XIII.

SECTION FOUR

PROBLEMS OF LIFE

Chapter XXXI

THE GOD OF THE LIVING

Undemonstrable character of Divine Existence—Best science can do is to leave field clear—Best philosophy can do is to show the reasonableness of belief—All theology can do is to systematize a logic of belief—Only demonstration possible lies in human experience—Hence it forms one of the human values and is justified by practical issues—A living God the only conception adequate to a living world—To be living means readaptation —Coöperation with man and with moral forces—Is such coöperation limiting?—Not if it is a voluntary self-limitation in the interest of a higher goal—As self-restraint is the path of perfect freedom, so a moral Deity might be supposed to exercise it—This the main difference between pagan and Christian Gods—Limitation for the sake of a greater end in view spells moral character in man or God and gives point to assumption of Deity in Jesus—Growth is not a weakness but a capacity for greater life—Is valuable in morally incompleted world—No difficulty with this thought if we remember the complementary character of immanence and transcendence —Should remember that when we describe God under the spatial and temporal order we are viewing him through our own limitations because we cannot say what such limitations might mean to the unconditioned—Conception of God as living is of supreme moment to the spiritual progress of humanity—It is a necessary corollary to a notion of God as creative—There is personality in God, or man himself is the supreme God.

The great human values are demonstrable only through experience. To one who has not experienced them there is neither appreciation nor understanding; they seem to him simply an incredible tale. Such is the futility of the attempt to tell the thief that some men are honest, the grafter that some men do not have their price, the traitor

that some men are patriotic at a sacrifice, the evil-minded that some act from pure-mindedness, the unloving that there is sacrificial love. These are the great values of life; by them men live and die. They are the forces that make human history; they build kingdoms and destroy empires, they put to flight the armies of aliens, quench the violence of fire, and turn the edge of the sword. They form the heart of philosophy and inspire science; without them life would be useless, and explanation and even knowledge valueless. Yet these human values are scientifically undemonstrable. They lie within the region of experience and are not understood nor comprehensible except by those who knew them directly in living experience. To such, scientific demonstration is not necessary. If this is the case with the lesser values of life, it is not surprising if the supreme value of all, God as a part of human consciousness and experience, should fall within the same category. The existence of God is scientifically undemonstrable, for he abides within the field of values and by reason thereof partakes of supreme reality. We should not demand that science demonstrate his existence, nor should science dream for an instant that he does not exist because he is beyond its powers of measurement. The love of one little child is more of a reality to me than the thunder of the seas or the mass of the mountains. I am undisturbed, so long as I experience the love of the child, whoever may insist that it is nothing because it cannot be weighed, or cast in the retort; nor am I moved, except to scorn, by the man who tells me it is naught but a chemism of the brain. Concerning the reality of God, the best science can do is to make no assertion but only to leave the field clear, realizing that it has no right to negative conclusions in the face of practical needs. The best that philosophy can do is to show the reasonableness for the assumption of God. The logical demand is very great, because an intelligible world

calls for an intelligent First Cause, and no philosophy can stand the criticism of time, which does not assume it. All that theology can do is to systemize the logic of belief which has grown out of the religious consciousness of man. The only convincing demonstration of God which is possible is the demonstration of individual and social experience and its basis is faith, just as faith between my child and me is the basis of our common love. The skeptic gathers great credit to himself for his skepticism, but, rightly understood, his skepticism proclaims a certain poverty of soul, an unbelief in the things of human life that are worth while which should be to him a matter of humiliation. Because the reality of God is demonstrable in individual experience, it forms a value and, so far as man is concerned, is justified by practical issues.

This being the case, the ancient sneer against anthropomorphism in the conception of God may be shown to have little sting. The relation between God and men is for us necessarily expressed in terms of human value. If that relation is inexpressible in such terms, then no relation can be established. It is *impossible* to escape the charge of anthropomorphism, but the charge carries no serious weight. The heart of theism lies in the assertion of the existence in God of moral and spiritual qualities, and these are to men meaningless apart from free personality making moral choices. The fact does not, however, justify the ungrounded assumption of the opponents of theism that man makes his god out of his own recognized qualities. Far from it. Man builds his conception of God out of ideals and dreams which he finds but dimly foreshadowed in himself, but this idealism and this dreaming would be impossible to any being who did not draw his sources from the divine. That is to say, it is a divinely inspired unrest which leads man to set forward a conception of God, but it is a conception which springs out of

the whole of life, its values, relations, and possibilities. They would not be there if God were not creator and sustainer of all. As God devoid of human relations would be meaningless, so we must find him in the larger concept as related to a living world in possession of those qualities necessary to life. This necessity finds statement in the Hebrew expression, "the living God." Jesus carried the concept a step further in the expression, "the God of the living," implying a closeness of contact and relation with all living beings and drawing the conclusion of immortality, at least for all such as had found themselves in God. On examination it will clearly appear that the only God adequate for a changing, living world is a living God. Furthermore, if we are to have moral continuity of purpose, that God cannot be of the pantheistic order, a dissolving, resolving, panorama of existence, but he must be a creature of personal and enduring self-identity. If a living God is the only adequate conception for a living world, our concept of life must here find application. As we have seen, to live means constantly and continuously to readapt so as to function as a unit to ever-changing conditions. Life means continuous activity in relations. Change in these relations implies continuous readaptation. In a world of growing moral ideals the concept of a living God would be that he is continually adapting himself to the needs and understandings of men, working in coöperation with them toward a moral goal for the world. In a world of freedom where men achieve that goal in varying degree of perfection, the victory of moral achievement must be held to be a joyous part of the divine experience, if God is to have sympathetic relation with man at all. Man thus becomes a partaker in the divine joy. Human life, and all life, become a portion of the divine consciousness. "Not a sparrow falls to the ground without the Father's notice," and "in Him we live and move and have

our being." Such truths, however, would not apply to a God forever static, forever completed, to whom the unfolding temporal order is completely run off and finished.

The question will immediately arise at this point whether such a conception of God is not incongruous with that absoluteness of power and perfection which we demand. Does not the readaptation of the divine to the moral exigencies of man, in the coöperative moral struggle, imply a limited God? This question loses most of its force when it is pointed out that the limitation is a self-limitation. If we hold the question as asked, to be a disproof of the divine accommodation to man's needs, it must hold with equal force against any doctrine of incarnation. If the coöperation of God in the moral struggle of man is a voluntary self-limitation in the interest of a worthy goal, it is in keeping with the best that we know of moral perfection. Not only so, but it has on its side the lessons of moral experience. Freedom we have seen reaches its high mark only when infilled and dominated by self-restraint, and it would seem to have been the supreme lesson of the life of Jesus that such rigorous self-restraint in the interest of moral and spiritual achievement is not foreign to nor unworthy of the character of God himself. The end, of course, which, he might have in view might be the spiritual regeneration of the world, which is possible only through the voluntary choosings of free moral beings. To achieve that most delicate of tasks without compulsion would be the most perfect of all ideals. As self-restraint in freedom is for human creatures the pathway to perfect freedom, so a moral Deity might in his perfect freedom be supposed to exercise it. Self-limitation for the sake of a greater end in view spells moral character in man or God. Such self-limitation for the purpose of coöperation of man in moral achievement, while it implies changing content in the divine experience because of man's freedom, does not imply

imperfection in the divine. A mother's love might be conceived as perfect at every stage of her child's growth. Of inexpressible moment to her, however, are the child's responses to her love and guidance, and the content of her love experiences grow with the moral and intellectual achievements of her child. That it is so is due to the unfolding development necessary to whatever exists under the temporal order. In all life, growth, while it is a sign of *incompleteness*, is not a sign of *imperfection* nor of weakness, but of power. Growth is valuable and desirable in a morally uncompleted world.

Throughout the discussion one difficulty has been constantly arising, the apparent conflict between immanence and transcendence. This is a very critical problem in any assertion of personality in God. It faced us when we were discussing the anthropomorphic elements in all human conceptions of God. It faces us when we attempt to affirm the incarnation or even to assert the possibility of communication or relationship between God and man. How can we "live, move, and have our being" in a personal God? A great part of this difficulty springs out of an assumed contradiction between immanence and transcendence. It is like the contradiction of north and south; neither would exist without the other. The time has come when we must build our theological expressions large enough to include both words, for the difficulty vanishes the moment we consider the complementary character of the two conceptions. It is the rare gift of personality to be at the same time both immanent and transcendent. It is measurably so in human experience. We are immanent in every work we do, in that our work is the expression of our desires, skills, and motives. We transcend our work in that we could express ourselves in countless other ways. If to be immanent is to be confined to the work accomplished, to be immanent is to be the prey of time and

change and to be inadequate for a living world. Man with his possibility of transcending all his work would be superior to such an immanent but non-transcending deity. God must be held to be both immanent and transcendent.

At this point a certain reserve of caution is necessary. We ought to remember that in all our affirmations of the relation of God to the world, in all talk of immanence and transcendence, we describe God under the spatial and temporal order because that is the only order we know. When, however, we thus conceive him we must remember that we are conceiving him through the medium of our own limitations, because we cannot say what such limitations as we impose by the necessity of human thought might mean to One who lives and acts not completely under the temporal and the conditioned. Half the troubles of historic theology have sprung from a failure to appreciate the limitations of any human concept of God. We have not fulness of light, but we have light enough to enable us to walk and to achieve the divine will.

The conception of God as living is of supreme moment to the spiritual progress of humanity. The fact of freedom, the reality of moral volition, carries with it the demand for a living God. If there is a living God who is participator in our moral struggles, the content of whose living experience is contributed to by the faithfulness and love of his children, we are ushered into a world of new spiritual realities. As moral character is ever a matter of choice, and can never be a matter of compulsion without destruction, so it appears that the spiritual regeneration of the world is to be a coöperative work of God and man. A new and vivid meaning is given to the conception of ourselves as co-workers with God. We are placed in an uncompleted world. The world is not so much a creation as something in process of creation. Only so much of it has as yet been created as was necessary to provide the field

and ground for moral achievement. Man is himself not yet made but is in the making. The world has not as yet begun to yield those powers still latent within it, but is waiting until man shall have achieved a moral self-mastery so that earth's secrets can safely be trusted in his hands. God cannot himself build it, because to build it without coöperation is to miss altogether what would constitute its value. While its builder and maker is God in the profounder sense, God waits that man may coöperate in the building. For by building with God alone can man come to his sonship in God and achieve the height and goal of manhood. The willing toil and sacrifice of men, the spiritual achievement won by sweat and blood, all these form the imperishable foundations of the City of God. The spiritual and intellectual kings of the earth bring their honor and glory into it. Man proves at last his divine sonship by loving and working with God.

Such a God can hardly be conceived as static or absentee after the manner of the ancient deists. He maintains and upholds the whole order of relations which constitutes the cosmos. Matter is not independent of him, natural law is but the uniformity of his free activity, life is his manifestation, upon him this whole field of life is momentarily dependent for its existence. The truth is not so much that he did create the world, as that he *is* creating the world under the temporal and spatial order. Space is the established relation between things made necessary for the development of personality, and time is the condition of moral development. He lives and his life is manifested in ceaseless creative activity, and this immanent and transcending God survives the welter of time and change through the possession of enduring self-consciousness and self-direction, which is what we mean by personality. Either God is a person or else that lonely and solitary pil-

grim of the spirit, man—alone of all created things known to possess the consciousness of freedom and of moral self-direction, but with his sense of failure mingled with undying hope—is the greatest god there is. But to accept himself as the highest God is against the very nature of man.

SUGGESTED READINGS

ALEXANDER: *Space, Time and Deity,* Vol. II, pp. 341-372, 373-401.

BALFOUR: *Theism and Humanism,* Lecture X.

BOWNE: *Theism,* Chapters I, II, III, V.

FLEWELLING: *The Reason in Faith,* Chapters III, XI.

SIMPSON: *Man and the Attainment of Immortality,* Chapter XII.

WARD: *The Realm of Ends,* Lecture XI, XII.

Chapter XXXII

CREATIVE IMAGINATION AND LIFE

Creative imagination is the unique possession of man—Importance to the human creature of play or simulation—Imagining himself in other and new situations—Creative imagination has the task of preparing mind and body for the necessary and desirable work of life—In order to be utilized it must be directed and must not drop off into mere day-dreaming—The individual must start his activities in the direction of fulfilment, clearing away obstructions in the path—Creative effort distinguished from non-creative by passing the stage of the merely mechanical and physical operations of life—Implies thought—The creative imagination in its relation to the subconscious—By frequent and continuous effort the latent forces of the subconscious are turned to use in achievement of creative work—This drive or push of the subconscious, utilization of sleeping hours, is possible only through the direction of the imagination. Thus all the forces of life, external and internal, may be turned in the direction of achievement—Creative imagination becomes, if pursued, overpowering to the will—Importance to their future work of the play and reading of children—Moral training and evil pictures—The power of suggestion in creative effort—Nearly all individuals need the encouragement to achieve which should come from the teachers and parents. No task in the community more important than the discovery of genius, which is simply interest with power to concentrate imagination and effort on a given end—Close alliance between creative imagination and mysticism in religion and art and the unlocking of unsuspected creative power of the personality—Relation of creative imagination to the emotions—These seem to be the source of creative imagination—Reason for religion—Enthusiasm and emotions must be harmonized through religion—The place of prayer in all creative achievement—Prayer tunes the creative imagination to the most exalted note and may be called the *sine qua non* of all great creative work—The reason for worship in religion, for reflection in scholarship, for leisure in art or in any creative occupation.

Creative imagination is part and parcel of one's power to reflect upon his own conscious moods and is therefore the unique possession of man. The importance of simulation or play to the human being has long been known. The child in his play prepares in advance for the activities and situations which will form a part of his workaday world. During the war it was found that the football experience of the men provided significant aid to their efficiency in war just as by creative imagination it does undoubtedly help to prepare the man for the exigencies contingent upon success and failure in the realm of peaceful vocations. By means of play the youth imagines himself in new situations and prepares mind and body to act when the situation actually occurs. Usually the lawyer, the doctor, the minister, the artist, the entertainer, the farmer, or the mechanic is given the bent of his life in the creative imagination long before his years of serious activity. When the church is the dominant interest in the community and the mother's dream of honorable service is the work of the ministry, a large proportion of the youth will have been so moved in early years that they will naturally seek that calling. When business success is exalted in the home the natural dreams of children will center on that, and we shall have a larger proportion entering business. There are many evidences to indicate that early surroundings and suggestions of artistic, musical, or literary nature are of vastly more moment to the future of the child than physical heredity of the highest type. Without a strongly stimulated creative imagination, original or creative work is impossible. This fact accounts for the necessity of well-appointed leisure to the artist or the writer. There must be time for imaginative self-development. The close relation sustained between the imagination and the subconscious is now psychologically well established. Involuntary movements, bodily functionings, the great field of

activities laid down by habit until they become instinctive,[1] all these are more or less influenced by or dependent upon what we call, for want of a better term, the unconscious mind.[2] Because of the fatigueless character of such effort, knowledge of how to turn over work to the unconscious or subconscious mind is of the utmost importance. It may very well be that the absence of fatigue from such operations is largely due to the absence of attention. The creative imagination might almost be called the gateway to the control of this subconscious mental life. All have had opportunity to observe the continuous and lightning-like rapidity of the mental imaginings. Only occasionally is our conscious attention directed upon it, but we are aware that the picturing faculties are going on continually in reveries, in the dreams of sleep, and even in the midst of directed mental effort. Concentration is simply the power to overcome or to command the picturing faculty in the interest of directive mental achievement. The pictures drawn by creative imagination have a tendency to usurp the subconscious mental life and to get into external action. It is essential then that the imagination should be set in the direction which we wish the outward life to take. If the imagination goes in one direction while we try to send external acts in the other, there will be serious conflict, and the imagination is very likely to win. Pictures of the imagination take up their place in the unconscious activities of the mind. The man who wills and who wills strongly to direct his life to certain desired activities finds his life strangely tending toward his subconscious dreams. If in addition to the stimulation of his imagination in the subconscious he direct his conscious efforts in preparation for

[1] For author's use of term instinct sc. above, Chapter XXIII, p. 202.

[2] Here again there is question of the proper word. Both subconscious and unconscious are applied to what might in the writer's judgment be more properly called the marginal consciousness.

the desired activity, he will almost surely find his dreams coming to fulfilment. Frequently the fulfilment will have been so unconsciously prepared for that its coming will seem unaccountable to the individual himself. Thus the creative imagination has the task of preparing mind and body for the necessary and desirable work of life.

In order that the creative imagination shall be utilized, it must be directed into avenues of activity and must not drop off into mere day-dreaming. The creative imagination can easily become destructive to effort. If constantly indulged with no attempt at outward expression, it inevitably leads to loss of control and to confusion of interest. The would-be poet or artist who dreams of writing or sketching but never puts pen or pencil to paper is not preparing to profit by his imagination. The very effort to write forms lanes of interest which both stimulate and direct the creative imagination so that it grows not only inwardly but in the direction of self-realization. The individual has his laborious task to perform, calling often for the utmost exercise of will. He must start activities in the direction of fulfilment. He must clear away obstructions from his path. He must learn, by doing, how to master both his material and himself. Creative effort will be distinguished from non-creative, originality from imitation, by passing from the stage of merely mechanical and physical operation into the emotional and imaginative. This fact finds frequent illustration. One cannot become a creative musician until he has mastered technique. This means that the mechanical and physical—fingers, arms, and keyboard, or voice-placing, breathing, or standing—have been by practice placed entirely in the realm of habit, consigned to the subconscious. So long as the instrumentalist is conscious of his instrument, the vocalist of his breathing, the painter of his brush, the versifier of his vocabulary, there cannot be truly creative work. The

creative imagination will have too many and great obstructions in the way of self-expression. Creative effort can never be labored, but the paths over which creative effort can move are laid down by the most exacting toil. Much of educational theory, at least the theory that rules the lay mind, has overlooked this important fact. The school does not make the genius. The genius may lay down therein by diligent toil the ways which may later be utilized for creative and original effort. Frequently also work must be indulged which seems wide of the mark. The greatest artist will be the one with the widest and most sympathetic background. History, language, the cultural treasures of the race, philosophy, mathematics, the sciences, all are needed. To put all the training upon the vocal chords is to omit that deeper training which will have power profoundly to move the souls of men. Teaching genius cannot be created by a knowledge of pedagogy and breaks down, though done according to the most scientific methods, without the background of cultural knowledge. Technique of rhyming may produce rhymesters, but it cannot produce poets. Technique properly includes not only the more obvious tools of the artist, but his own power of mental, physical, and moral self-control as well. One's training can never therefore be too broad or too deep.

The relation of the creative imagination to the subconscious has already been suggested. The imaginative powers are continually in action, asleep or awake. The task of achievement is in great part the task of learning to turn them to definite ends. The imagination is continually playing upon whatever interests us, and we will either direct it or it will direct us. This is the real difference between the truly educated and the uneducated man. The truly educated man both mentally and morally is he who has learned to control his imagination and to drive it in

the direction of accomplishment. The really uneducated man may or may not be a college graduate, but his distinguishing characteristic is that he is controlled by his imagination and is thus the victim of his own emotions. By frequent and continuous effort the latent forces of the subconscious may be turned to use in the achievement of creative work. It is possible to have the great power of the picture life within the soul turned to aid the main drive of life, to have it active in sleep as in waking moments, to have access to its resources so that at the moment of awaking we can profit by solutions worked out during sleep. This drive or push of the subconscious, the utilization of sleeping hours, is possible only through the direction of the creative imagination. If there is complete unity within the self, mental, moral, and spiritual, so that one is free from fears, inhibitions, and conflicts, so that one grasps situations through the "single eye" of pure motives, then is developed the greatest power of achievement. How completely this takes in the whole man, mental, psychical, and religious, as well as physical, is very apparent. So it comes about that all the forces of life, external and internal, may be turned in the direction of desired achievement. At this point the question arises as to how we may avoid conflicts between these two minds, the unconscious or imaginative and the conscious. In achieving the desired unity only brief mention of factors involved is necessary. Reflection is one of the main elements in securing unity of outer and inner self, as is keeping on good terms with all men of good will, so that in so far as may be compatible with self-respect and righteous conduct one is at peace with all men. Most and greatest of all in securing this unity of self, is the influence of genuine religious faith realized through prayer.

The creative imagination if pursued and directed may become eventually overpowering to the will. All will

readily recall the simple illustration perhaps not original with, but used by, Emil Coué. One has no difficulty walking a plank raised two inches above the floor. If, however, the same plank should span a chasm a thousand feet deep, the influence of the imagination would in many cases, if not in most, prove overpowering to the will of the person attempting to walk the plank so placed. He would fall from the plank as the result of the dwelling of his imagination upon the depth, the possibility of falling, and the result of falling. Picturing himself as falling would very likely be able to overwhelm both judgment and will. It must be admitted that there is much of truth in his illustration. Many a man thinks he can live a double life and not have it affect his business or his art, but any disloyalty in his social life, in his heart life, in his emotional life, even disloyalty to his employer, introduces a conflict which will cause inevitable deterioration and keep him back from the fullest success. For in the long run our external and our internal life must be in harmony or the internal and secret one will be master of the other. We live our external lives of conventional habits and manners and sometimes a very different internal life of deep-seated desires. The deep-seated desires dwell in the creative imagination and in the time of unusual opportunity, crisis, or temptation they will rise and sweep all in destruction before them. The imagination must be held often to provide the factor of conviction. In most of the affairs of life it provides the convincing factor in decision. Where then is the privileged place for the exercise of the will? In the control of the imaginative faculty. One can walk a height very well if instead of willing not to fall one turns the attention of the imagination to other matters. The reason the spiritual Master of Men turned the attention toward the inner sources of control is because the will really gets in its work and makes its decisions

before the imagination begins. To imagine one's self sinning is really to will to sin. The will and the imagination are mutually stimulative, and the sinner finds himself borne on the tide of action which he cannot apparently stop because, in fact, his will has already been committed in the deepest recesses of his being. That is the reason that Jesus sought out the secret place of the creative imagination as the point of moral danger. The creative imagination is easily diverted and controlled in the beginning. Allowed to grow it gathers with it all the subconscious forces of life in the direction either of good or of evil. It is still quite true that out of the heart are the issues of life.

The power and place of suggestion in all creative effort is thus clearly shown. Nearly all individuals need the encouragement which should come of parents' and teachers' assuring them of faith in their ability to achieve. Most frequently the disclosure by parent or teacher of latent powers comes as a revelation to the individual and turns the whole after course of life. Some day we shall realize that the greatest value of the teacher to a community lies not in his mastery of method nor in the marks which the schools have placed upon him, but in the possession of moral and spiritual character and humanness which give him sympathetic contacts with his pupils. His supreme value to the community lies not so much in the method or content of his teaching as in his ability to discover students to themselves. By the power of suggestion he sends individuals out to the careers for which they are fitted. The possession of highest spiritual and religious qualities are involved if individuals are to be directed into channels of greatest value to the community. The teacher who has not these will merely send his students in the direction of a low and a dead vocationalism. The state has plenty of skilled artisans. What it needs is moral and spiritual leaders. He who has managed to capture one boy or girl

from the levels of mere vocationalism to fitness for moral and spiritual leadership, to artistic and literary genius may well be considered as justifying his own right to recognition. No task in the community is more important than the discovery of genius to itself, and genius is not so rare a possibility as is sometimes thought, being simply interest with power to concentrate imagination and effort on a given end. The reason that so much faithful work in the world lacks the touch of genius and originality is because the individual has not achieved harmony within himself. He has not learned to tie up his dreaming with his doing. His work lacks that spontaneity, freshness, and spirit which launches into new channels because he does not properly profit by these hidden and almost exhaustless resources. The output of life is comparable to that of a factory. The factory that runs three shifts a day will in the nature of the case put out three times the product of a one-shift establishment. The man who sets his subconscious mind working toward a directed end will not only increase his output but greatly improve the quality of it. For it is this fatigueless effort that is the source of our highest enthusiasm and gives to work the mark of genius.

The creative imagination will be found in close alliance with mysticism in religion and in art in the power it possesses for unlocking unsuspected creative faculties. The emotional life of the individual is all bound up with the imaginative. "No imagination, no emotion" is fairly a truism. No imagination, no emotion, no creative achievement, might no less surely be added. Here lies, it would seem, the psychological reason for religion. It is needed to bring harmony in emotion, imagination, subconscious willing, self-direction, and effort. Lack of harmony here will inevitably discolor and confine the springs of creative effort. Here we hit likewise upon the reason for worship in religion. There must be a religious ideal so great, so

ennobling, as to command the best powers of man. Moments of worship, of self-conscious communion with the divine, are necessary to religious living. On exactly the same basis artist and writer, statesman and inventor must have leisure for reflection and communion. It is so in scholarship and in all creative occupations. The unusual place which religion takes in creative work furnishes ample reason why art, literature, and life reach their highest expression only through the spiritual motive. A profound reverence for beauty as true, as human, and as intelligent, amounting to worship of the highest, must have inspired the devoted soul of the sculptor who carved the Venus di Milo. It could never have been accomplished by a cheap and irreverent soul. It is the element of worship that lies behind the inspiration of the Gothic architecture and made possible the work of the greatest artists. Art is not true art until it gathers about the central core of reverence and worship. Great literature and great lives spring equally from the same sources. And the heart of all reverential feeling is prayer. It tunes the creative imagination to the most exalted note and may truly be called the *sine qua non* of all creative work. Prayer has its place in all creative achievement. Prayer not for selfish benefits to be received, but prayer for power of highest expression is what is here meant. Prayer as an exhibition of pious mendicacy has been of no service to the world. The heart of achievement lies in that type of prayer which unifies all dreams and desires and powers of self-expression in the man, all moral and spiritual aspirations, in the direction of a great and noble aim.

Whether the result be a Rembrandt, a Beethoven, a Rhiems Cathedral, or a Cross of Calvary, it is inspired, and its worth for the advancement of civilization, its value as creative effort, is to be measured by the completeness of its religious devotion. This is the story of history and of

life. Again and again along the dusty way, the sordid and uninteresting life has been lifted into power and achievement by the shock of religious experience. And this will continue to be the case so long as the creative imagination of man has so profound a place in all creative work.

SUGGESTED READINGS

BUCKHAM: *Personality and Psychology,* Chapter V.
FLEWELLING: *The Reason in Faith,* Chapter VI.
HALDANE: *Philosophy of Humanism,* Chapters I, II, III.

Chapter XXXIII

THE ACHIEVEMENT OF PERSONALITY

Personality the power to turn life in any desired direction with effectiveness—Personality the completest power of self-consciousness, i.e., has a proper sense of its relation to its world and its own possibilities—Personality means completest self-control in the interests of the highest possible aim—Personality implies ability for freedom, to take highest and best course in spite of social entanglement, prejudices of men, custom, and heredity—Highest personality realized only through the complete consecration of powers to righteousness, God, and society—"He that seeketh to save his own life shall lose it, and he that loseth it . . . shall find it."—Highest personality incompatible with the practice of selfishness—Yet personality must contain the power of self-assertion when that is necessary to best achievement—The importance to personality of the unselfish spirit lies in the achievement of internal unity and detachment—Only powers that are exercised disinterestedly or unselfishly can be exercised to the full.

In the simplest possible statement and using the fewest possible terms, personality might be described as the power of self-consciousness and self-direction, and the person as the center of self-consciousness and self-direction. If we speak of human personality, self-consciousness must include the further element of consciousness of consciousness or the power of reflection upon one's conscious states. But in discussing personality as an achievement we wish to dwell not upon its lowest possible expression but upon its highest. Upon its lowest side the higher animals approach very close to the possession of personality. They are conscious of themselves as over against a world of relations. They exhibit a certain power of choice and of self-determination, within very narrow limits. They lack, how-

ever, that higher power of conscious self-reflection, or consciousness of consciousness, which gives to man a sense of moral responsibility, enables him to invent language, leads him to provide social institutions under which to live, and makes him the artificer of tools and machines.

Man finds it quite possible to live along the lower line of personality, but it can scarcely be called an achievement. He is apt to continue very close to the animal, where conditions of life are so easy that he has practically to perform no labor to sustain himself, or where the conditions of life are so difficult that leisure is unknown and subsistence is so scarce that he lives in a state of continuous undernourishment. Whatever their previous tribal or racial achievement may have been, it seems possible for men to drop back under these conditions to a state of semi-savagery. That there is no surety of evolution is clear from the condition in which we find the lowest orders of mankind after an evolution as extended as any. Not only is there personality of this low type which fails to realize its possibilities, but there are varying degrees of personality all the way up to the highest, and these degrees are to be measured as achievement, for the full realization of personality comes by struggle and rigorous discipline.

In its higher sense personality is the power to turn life in any desired direction with effectiveness and in full consciousness of the highest motives. The last phrase must be added because the completest self-consciousness includes an appreciation of the meaning of life, a sense of moral obligations and duties, life viewed under the aspect of motives, from the standpoint of social relations, and, highest of all, with a keen sense of spiritual values. Personality in this sense implies moral self-control, the inhibition of low aims, and the sublimation of impulses toward the wasting of powers on the trivial to high uses

in forwarding the ideals of life. It is the completest self-control in the interest of the highest possible aim.

Such a definition of personality will displease some, for the term is at present much abused and much on the common tongue. By some personality is made to mean mere individuality, the emphasis of differences. Frequently it is assumed that one can realize his personality by a supreme kind of selfishness, a running counter to the general good, an assertion of one's self as against the common good in the direction of one's own pleasure or interests. Such was Nietzsche's ideal of super-personality, but it was essentially false because untrue to man's spiritual nature. The climax of Nietzsche's ideal of personality was the "blonde beast" he describes with such enthusiasm without realizing the incongruity lurking in his very words. His blonde beast was a superbeast but never a superman. The fulness of personality is not realized until the individual has made it captive to the highest good. When one has come to that point of self-control where neither individual comfort nor selfish interest can keep him from spending life where it can accomplish the most for human good, then, and then only, has one achieved perfect freedom which would also be perfect personality. The highest personality is realized only through the complete consecration of powers to society, to righteousness, and to God. The reason for this is not far to seek. Personality is not a compartment affair. Inasmuch as personality is achieved because of the presence of self-reflection, self-reflection makes heavy demands. Any lowering of intentions from the best immediately cripples and destroys personality. It is conscious of its own shortcoming and, being conscious, knows that it has fallen short of life, or being. The universal experience shows here that "he that seeketh to save his life shall lose it," and he that loseth it for the highest shall keep it for eternal life.

At one main point does our doctrine of personality run counter to much of the theorizing of our time. That is with respect to freedom. If men are not free, personality in the sense we have been considering is impossible. It is rather popular and common to assume that man cannot master his impulses, and that if he attempts to do so these impulses wreak a terrible vengeance on his mental and psychical life. This is quite true but only under one condition, which is seldom sufficiently considered. That condition is that the individual has not achieved spiritual unity within himself. He has not oriented himself to the highest. His inhibitions are made at the command of society or convention with which he is in disagreement. The conflict would never have arisen had he been completely given to the good. But the very fact of conflict, of these terrible inhibitions, contradicts the main tenet of materialistic psychology, that there is no freedom. The possibility of inhibitions and conflicts is dependent upon the possibility of choice and therefore of freedom. Personality can therefore be maintained only on grounds of freedom. It implies ability for freedom, ability to take the highest course in spite of social entanglements, the prejudices of men, custom, environment, and heredity. And this assumption accords with common sense. One may lay his own thievish propensity to an uncontrollable impulse and take rather lightly his departure from right, but it is not so easy when one's own pocketbook is stolen to accept the excuse of the other fellow that he was possessed by an uncontrollable impulse and should therefore be relieved of all responsibility for his act. Of course, if he was not responsible, punishment will not better him; stealing is of the fundamental order of things, and it is presumptuous and even impudent to require the return of the pocketbook. All our political and social institutions are built upon the presumption of freedom. Without it

civilization would perish. What is written so deeply into social necessity and the common understanding of man we have no hesitancy in proclaiming to be a fact. If the mechanistic psychology fall upon this fact it will be broken. It is unnecessary to carry the figure further.

We have seen that possession of the highest personality is incompatible with the practice of selfishness, yet this must not be interpreted to imply a weak will or spinelessness. The unselfishness demanded of personality does not consist of the foregoing of everything one really desires, or the weak yielding to the wishes of others. Unselfishness is compelled to show cause. Like the love of a true parent it must not be allowed to run into indulgence. Self-sacrifice is never good in and of itself; it is justified only by a good and sufficient reason. Weak people frequently demand sacrifices in their behalf which should be denied. Personality must be unselfish and yet it must contain the power of self-assertion when that is necessary to the best achievement, the largest good. One must live with this largest good in mind; it is frequently difficult to tell what is the largest good, but we must do our best. If society is to improve there must be in it here and there the element of Puritanism to give it moral backbone. There are too many people in the world who associate goodness with spinelessness.

The importance for personality of the unselfish spirit lies in the privileged achievement of internal unity and of detachment. Only powers that are exercised disinterestedly or unselfishly can be exercised to the full. So long as personal pleasure strives with duty there cannot be great achievement. So long as one fears the future, or thinks much of how he will be maintained, he has not that freedom and independence which is necessary to all creative work. He must have freedom to utter whatever truth is in him by voice, pen, and act, provided these are not

destructive of real value. It seems incalculably difficult for any human being to do this as he ought unless there is in him the assurance of God. Not that this should of necessity take the theological form, though the experience of the ages has proved its importance. The assurance of God may be in the form of a sense of the everlasting fitness of things, the agreement of one's truth of word or form or act with values that are eternal and that cannot pass away. To stake one's all on some such final expression, to live for it, and die for it, to risk all for it, is to utter an assurance of faith, a belief in God of far more meaning and importance than the repetition of lip phrases. And personality has never realized itself at its best, has never come to fulness of expression, until it is thus free from itself, free from every lesser wish. If the race could as a whole arrive at this high point of freedom, we should have a new heaven and a new earth in which God would deign to dwell. All truly great creative work must be done in sense of freedom and with this assurance of God. Such creators work in the spirit which Sidney Lanier proclaimed:

"I work in freedom wild,
But work, as plays a little child
Sure of the Father, Self and Love, alone."[1]

[1] *Poems* (Charles Scribner's Sons, New York, 1905).

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Chapter XXXIV

PERSONALITY IN THE SOCIAL ORDER

The self-consciousness of personality in the social order calls for correct adaptation to that order—Finding one's self in society—The art of coöperation not with society as it is but as it should be, at its best which may bring social conflict—Nevertheless it is through society that the individual must find himself and adaptation is the instrument of power even in change—Personality must direct itself on the social order, not merely receiving, but bound to make its own contribution—The greatest gift to society is the gift of a great personality—The social order awaits the reconstruction of its ideals by personalities of mental insight and moral power and social imagination—This result not to be blundered into by accident but will come by directed effort and constructive thinking—One need not altogether fail for one can discover other personalities to themselves and make what is sometimes an even greater contribution than his own—The advance of society is almost wholly through the personalities of great leaders—Illustrations in history: Socrates, Plato, Plotinus, Augustine, Paul, and Jesus.

In a world made up of reflective beings one of the most important problems for the individual is the adaptation of wants, desires, aims, and habits to the larger demands of the social order. To some the necessity for such adaptation offers immediate conflict with the principle of freedom. Some individuals never get over a feeling of resentment at any conformation to established standards, and many preach that all such standards kill initiative and reduce society to the impoverished level of its poorest specimens. This result, however, is more in theory than in fact, for while occasionally the advance herald of thought and reform suffers his martyrdom the great mass of men are not prepared to make independent advances. Usually

those who chafe most at the conventions by which society protects itself, chafe not because of some good they would bring to society, but rather because they desire to live in utter disregard of the rights and comforts of others. On the whole, the conventions make for the conservation of the small advances gained, and society needs always to protect herself from her selfish and unruly members. The individual who is going to live with others cannot be allowed to live on the same basis as if he were the only person in existence. His early important task is then so to relate himself to society that he will not unjustly invade the freedom of others to their own rightful self-development. This does not mean the acceptance of society as it is. Finding one's self in society means the art of coöperation with society not as it is, but as it should be at its best, and with the highest good for the greatest number. This may bring social conflict, however it is social conflict not in selfish interest but in the wider interests of all. Nevertheless, it is through society that one must find himself and express himself, because in society he must live. It is an environment as necessary to him as mundane atmosphere. He cannot break away from it altogether without disastrous results both to his personality and to the social order. Adaptation to others is not a weakness but a power, and the necessary instrument of progress in social change. This is true, however, only when the individual adapts himself with high-minded regard for the general and future welfare. A mere thoughtless slavery to the conventions of society is as much a waste of the individual as a wild opposition to all conventions. The progress of society is made by individuals who hold their power in freedom, overcome neither by the wildness of self-interest nor by the dictates of convention. But such social self-realization is possible only to those who live in reverent regard for social righteousness. Personality

must direct itself on the social order, not merely receiving, but bound to make its own highest contribution.

The greatest gift to society is the gift of great personality, for in realizing himself the individual brings the greatest progress to the social order. The truth of this standpoint becomes apparent when we realize that the highest self-realization of the individual can never be a selfish one. The law of successful personality, like the law of successful life even among plants, is not capacity for receiving but capacity for giving. The successful tree is the one that bears the most fruit, not necessarily the one that absorbs the most water and sunshine. The successful personality is the one that loses life, and all anxiety about life and its rewards, for the sake of the highest service. Such a personality finds the root sources of true inspiration and goes beyond itself in multiplying capacity for self-realization. In forgetfulness of self it realizes its truest self.

This fact is that which ties personality to the social order. We cannot realize ourselves in the truest sense apart from the social relations. Any attempt to do it by retreat to the cloister, or by wild evasion and rebellion against the social requirements, will meet with equal failure. Not to know one's self socially is to fail. The greater number of our criminals are merely people who have failed of social self-realization. They are out of step with their fellow-men. They refuse to work in harness. And society is right in restraining them where they abuse their freedom to the detriment of others. The social order awaits the reconstruction of its ideals by personalities of mental insight, moral power, and social imagination. It can get on only as rapidly as such minds can furnish it the means of advance. The highest social order is not something that can be blundered into by accident. It can come only

by directed effort, constructive thinking, and self-forgetting service.

If it be disheartening to most of us to realize how small is our own gift to society through the realization of our personalities, it is comforting to realize that one need not fail altogether. It may be that our best contribution to social advance shall come through the discovery of other persons to themselves. To fire the creative imagination of the young to successful effort is very often to make a far greater contribution through other lives than through one's own. And this supreme privilege is given the most humble and the most ignorant, provided his life is strong in sympathy, and love and rich in the supreme spiritual ideals. For after all there is no progress in civilization which is not to be measured by moral advance. Advance in wealth and in knowledge lead to the collapse of society if they be not attended by greater spiritual advance.

An examination of history shows with a remarkable unanimity of cases that the advances of society are almost wholly through the personalities of great leaders. These are the creators of the social mind who lift the general level of social thought. Significantly enough the world's great leaders have been those endowed with a marked self-consciousness. When we note the cases of men who have profoundly affected not only their own age but the ages that have come after them, we discover a curious similarity in one respect. Self-discovery has come to each with the power of a great conviction. Each has been imbued with a new sense of the worth and meaning not only of his own personality, but of all personality. All other things for which most men strive and in which they rest have seemingly become as naught to them under a supreme consciousness of the value, the worth, and reality of the individual.

The philosophic career of Socrates is said to have had

its beginning in a sort of trance wherein he stood for hours rooted to one spot and from which he emerged with a profound conviction of the validity of the moral self-consciousness as the arbiter of all human action. Trained in the school of the Sophists, he had been led to the verge of a universal skepticism and relativism. There seemed to be no valid truth or norm of action beyond that of the hour, the occasion, the desire, or the purpose of the individual. In the moment of deep conviction he saw the insufficiency of such dicta as rules of life. He discovered within himself that voice "which speaketh low in every heart." He saw that man is never left without moral guidance, the consciousness of right and wrong, and what was more he had the discernment to feel that this was the most important fact in man's universe. So from that hour he worked, lived, suffered, and died in the consciousness of *the Voice* which could not mislead him. One does not need to claim everything for Socrates. There were many respects in which he was the child of his time. The moral ideals of our age do not fit him, especially with respect to certain of his social views, his attitude toward the status of womanhood, his essential leanings toward aristocracy; but he has had no small part in making those ideals of our age which bring into judgment those of his own. It is not too much to say that he laid the foundation of the Stoic doctrine of selfhood, characterized—if it can be characterized in a single word—by the term self-control, the mastery of one's own spirit. Stoicism was fairly built upon the principle by which Socrates lived, the principle that one can live in the high mood of the spirit unmoved and undisturbed by lesser circumstance. Thus he armed the later Stoics with a power which was no less than religious.

This profound principle of individualism was, through the Roman Stoics, written into the legal code of the Roman

Empire, and so became the rock principle of modern civilization. We believe that man is free, that he cannot really be coerced, and that therefore he is responsible for his acts. The fingers of those who rebel against all moral responsibility or who are the enemies of self-control, or who in a blatant materialism affect to deny the power of the spirit of man, have through the long ages pulled at the superstructure of law, order, and government which rests upon this foundation. They have never been able to destroy the principle itself, however, and they cannot, without the complete wreck of civilization. This fact of history should be commended to those modern scholars who feel it is a "scientific" necessity to rid us of all human values and who deny the reality of moral responsibility in the interests of physiological psychology.

With Plato the moral self-consciousness of Socrates took on a wider range. No less certain than the Socratic conviction, in Plato it became a universal concept. Thus it was that Plato severed himself even more completely from the Sophistic influences. If something of individuality was thereby lost, it was also true that there was a compensating grasp and grandeur to his thought which was very ennobling to the individual. While there was less of egocentricity in Plato's universe, there was a Universal Mind of which man was the noblest shadow and copy. Thus man found himself in a friendly and coöperative universe. The spur of this magnificent dream well-nigh dictated the thinking of more than a dozen centuries. Through Plotinus and neo-Platonism it became the guiding concept of early Christian theology, and in the Christian dream of universal truth and through it of a universal church we easily trace the influence of Platonic and Socratic concepts.

Neither is the tale of history essentially different when we study that great figure which stood midway of the line

of this development. Until almost middle life there was little promise of serious influence springing from the career of Augustine. Drifting now here now there, torn by animal desire, the lust of the eye, and the pride of life, there came a time when the necessity for moral self-realization was brought home with new power to him. Already the sack of Rome had taken place, and he saw about him, as he supposed, the ruin of the ancient civilization, and possibly therewith the extinction of the church. Old beacon lights of direction were failing. Then there arose within his moral consciousness above all the doubt and confusion of his life and his age, the startling conviction—akin to, if not identical with, religious experience—the conviction that within the deeps of the self lay the final and the adequate judgment of truth. Thus it was that amidst the lurid light of a passing civilization he could, through the power of deeper convictions, rise to the conception of an eternal kingdom of truth, forever abiding in the hearts of men and which could not pass away. The Eternal City herself might be destroyed, but Augustine turned toward that nobler City of God which was to endure forever. There is no wonder that in the long days to come, the Protestant Reformers, conscious chiefly of an institutionalism which lived to stifle private thought and initiative, turned to quench their burning thirsts at the fountain of Augustinian individualism. So again a man within whose soul burned the consciousness of personalistic reality lifted himself above the passing and the trivial and reached out along the centuries that were to come.

It is not necessary to multiply instances, though these could be extended to include the roster of those who have most profoundly influenced the history of the race. Greater than all save One was the Apostle Paul. The Damascus road experience, how much was it like that of Socrates! Henceforth each waking moment was filled with the con-

sciousness of a Divine Presence through which alone his selfhood could truly be realized. Except for Jesus himself, who really made this man what he was, the world has never seen his equal. The heart of Paulinism as well as the heart of the Christian Church lies in that consciousness that came to Paul on the way to Damascus. Henceforth there was for him no uncertainty. In the strength of his conviction he moved upon the civilization which to that time was the world's supreme achievement and he captured it with the power of a single and central idea, the supremacy of the moral worth of Jesus and the identification of that moral worth with Deity itself. Because this conviction glowed hot within him and the souls of other men were like tinder to its touch, Paul's conviction has come near to the conquest of all that is best in modern life.

Having spoken thus, what can be said of that Master Soul who stood behind Paul and was the fountain source of his inspiration! That Man who has become the personification of the race, glorified and vilified, yet never outlived, whose principles submit to us the livest questions and the most searching known to man. However much we may disbelieve, or however much we may wish to be rid of him, we find him forever the inescapable judge of all our vaunted achievements. And the master principle that ruled him was not essentially different from that of the others except perhaps in its completeness. This too was a conviction of self-consciousness. It was the consciousness that he and the Father were one. Out of the clearness of this conviction he taught. The passage of the centuries, the wanderings and strifes of men, the growth of knowledge, the rise and decay of institutions, the groping of civilizations toward better goals, the march of human achievement, all of these serve only to put in stronger light the fundamental truth and the saving power which flows from the self-consciousness of the Man of Nazareth.

It is possible to trace the development of civilization by a consideration of its great leaders, and these men have apparently come to their place of leadership because of an assurance rising within self-consciousness. Social progress then may be seen as coming perhaps not primarily through change of environment nor of social circumstance, but first of all through the impact of personality.

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WALLIS: *The Great Society,* Chapters I, II.

Chapter XXXV

PERSONALITY AND THE WORLD-ORDER

The world-order is personal, i.e., made for personality—There is therefore a working basis—The heresy of assuming world-order inimical to morality, religion, and personality—Only as we adjust ourselves to it that we can use it—"The stars in their courses fought against Sisera"—This only possible conclusion if we believe God created world and is its master—Need to clear ourselves of manichaean conception—World-order fundamentally moral—In the long run it is captured by the spiritually minded—Meaning of sermon on the mount—Moral evolution the outcome of the world-order—Personality reaches its best as it realizes its true adaptation to the world-order—God behind the dim unknown, the secret of the world-order.

Consciously or unconsciously, in mood of friendliness or of hostility, every man pays tribute to the assumption that personality occupies a place of reality in the world-order. He may maintain with all his mental strength that matter is the fundamental reality. Yet when it comes to the commonest as well as the noblest associations of life he has to deny his theory. His situation bears analogy to that of his extreme opponent who declares that mind is the fundamental reality and the objective world is illusion. As the idealist must eat and must continually act as if the world of objects were real, so the materialist can live in the world-order only by acting as if the world of thought, fashion, and ideal were the truest world. Are not both suffering from the one-sidedness of a too narrow standpoint? Are not both partially right respecting the nature of reality? Must either matter or spirit be disallowed as real in order to save the other? Surely any system must be counted inadequate which reads the objective world as illusion, and any other system is equally so which denies the reality of that world which provides man's most satis-

fying values. Why not take life as we find it? We have a world of objective relations in which at least our bodies, our organs of expression, are objects. We have also mental and spiritual capacities necessary to the maintenance of our bodies in that world of relations, to the attainment of our own satisfactions, and to the knowledge of that world. There appears no adequate reason for dismissing either the objective or the subjective element of experience. If we are to think of a world-order at all, it would seem desirable to include in it both that which thinks and that about which we think.

It is only for purposes of special investigation that we attempt to think of the individual as pure spirit. Whatever the comparatively less importance of his bodily organism, we gain nothing, when considering the whole man, by omitting it. On the other hand, we get only a warped and essentially false view, a one-sided science, when we attempt to treat man from the sole standpoint of physical organism. We live in a universe in which we have phenomena of persons and things. Since both are needed to make up the system, it would seem a truism to insist that personality is a part of the world-order. If some of our friends are still reluctant to admit this, we point to the consequences of denial. By denying the world of self-consciousness we commit ourselves to a hopeless and helpless denial of the possibility of knowledge. This denial logically lived up to would make life itself impossible. We have to resort to a species of pragmatism or realism with regard to these severed aspects of life, and each of us does it in spite of his theories. If the world of external fact and knowledge of that world whose union is so necessary to practice and understanding are both to be assumed as real it seems to some at least that we must posit personality as a part of the universal order. To some this assertion will appear a too feeble statement of the truth, but we are

desirous of reducing our terms to the lowest denomination. If personality and mind are a part of the world-order, it is probable that mind and matter have affinities which go beyond the minimum essential for knowledge. It is probable that as yet we have hardly begun to know the relationships that exist between them. There is every reason to anticipate growing knowledge and increasing control by mind of the physical forces. We ought to arrive at an increasingly certain working basis. A working basis calls for an adaptation of mind to the facts of nature. There is no reason religious or scientific why it should be considered ignominious that mind must bend itself to the natural processes in order to be able to command them. The very uniformities of nature, once discovered and understood, insure to mind its future kingship over matter. If the world-order includes mind or minds, it is only by the closest coöperation, by unity of effort, that the fullest expression of either can be achieved.

In view of such considerations, to assume that nature is inimical to man and hostile to goodness strikes us as a fundamental heresy. Does the world-order in some way stand behind goodness? Does it favor the forces of moral regeneration and aspiration? Often enough in the world's history men in their pessimism have arisen to shout back an emphatic "no" to that question. Is that answer a religious one, and, if so, why? The great emphasis of Aristotelianism, which made its fullest impact upon Christian thought only after passing through the melting-pot of Persian Manichaeanism, was put upon the hostility between man and the world-order. Man was more bent upon escaping it than upon mastering it. This dualism is characterized by the pessimism of that ancient world which produced it. It was a world that for the most part stood before the natural order defeated. By magic it had sought to penetrate the mysteries of existence and it had been

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thrust back upon itself baffled by a profound mental weariness and despair of knowledge. It had sought the mastery of nature and was chiefly conscious of dread powers, of cataclysm, and disease, before which it could offer only ineffectual incantations. There was no outlet for the spirit of man save in the aspiration after individual goodness. The forces of social organization posed problems too hard to solve. The eternal conflict went on between light and darkness, between spirit and matter, between supernatural and natural, and the conflict threatened even the supremacy of God. This impact of an older thought upon the medieval church was so deep as to change the current of thought and practice. It was fitted to a world of wide social chasms, of marked social degradation, and an all but universal ignorance. Religion was the one ray of hope in a disjointed world. Amid calamities so embracing, it is little wonder that men looked upon the forces of nature as hostile to man's highest effort, and as essentially irretrievable by the forces of good.

There are those among us who continue to look upon such a mood as the essentially religious one. To many sincere souls it seems the mood of faith. They are chiefly conscious of the discrepancies in man's achievement. The world seems to them hostile toward righteousness. Nature is interpreted by them as the enemy of "grace," the opponent of the supernatural. Ought we not, however, instead of settling into an attitude of such pessimism, to inquire if it is really the mood of faith? Is not the question especially necessary in view of the fact that such a position logically adhered to is splitting wide open what should be a unified attitude, namely, our attitude toward knowledge and our attitude toward faith? Probably of all men the religious man, even of this temper, would be the first and most fervid to assert that God created the whole universe. But is there not something incongruous

in the assumption that the nature which God created is inimical to a moral and spiritual order? Of course, it may be argued that it is so because it has fallen under a curse. The curse of whom? Of God? Or has it fallen under the curse of sinful acts of men determined to pervert it to unsocial usages? The latter seems the more reasonable position, but if it be true there is possibility that redemption of man may bring with it the redemption of nature. It may indeed be true that nature will quite surely prove her friendliness to a human race which does not pervert her processes. May it not in the end be found possible that in the realization of his own spiritual powers man shall likewise come into a new and unanticipated mastery of nature itself?

Such a view would have several advantages. It would not cast responsibility for moral evil upon God, and thus we should be on the way possibly to clearing away one of the most telling objections to the belief in God. It would do away with the ancient Manichaean conception of Zoroastrianism that evil is as eternal and, by the same token, as powerful as God himself. It would give hope for the salvation of the present order and provide a logical reason for efforts at social amelioration which to our own age has come as the voice of Supreme Duty. It would set our severed worlds of religion and of knowledge working together. It would be closer to the general Biblical conception of the relation of man to the Cosmos. Not the least count in favor of this view would be that it represents a more inclusive and therefore a vaster and a profounder faith in the power of God. In the light of such considerations, it represents therefore not only a nobler view of life, of the world, of God and man, but likewise a nobler faith. If "the stars in their courses fought against Sisera," was it not because nature herself was unfavorable to the man of evil and of selfish design, groaning and travailing in pain

for the opportunity to throw her power upon the better side. May not the ethical task of man be to throw open the flood-gates of opportunity whereby the healing forces of nature herself shall have a chance to work. And if God is maker and creator of all, may not the glad eventual discovery be that these forces and activities of nature are but the forces and activities of the Supreme Will waiting only for the ethical coöperation of man to spring into being! Under such a conception prayer grows into vaster meaning, faith becomes a larger thing, and the fundamentals of religious faith discover an undergirding which makes them invincible.

We have in these reflections fallen upon a further one; if the world-order is personal, it must also be moral. Or to put it another way, if we cannot think our universe without leaving in it some place for man, neither can we think of it in completeness without leaving in it some place for the moral order. If such a conclusion means anything, it implies, all passing appearance to the contrary, that in the long run it is to be the possession of the children of light. It implies that the world-order is to be captured by the spiritually minded. It might mean furthermore that the whole creation of a natural order looks to the moral evolution of the race. Moral evolution may then very well be the goal of cosmic creation. And is there anything irreligious about such a view? It seems to us to take hold upon the very wings of faith and to present such thrilling challenge as to stir the deepest nature of man.

What, after all, is the secret of the Cosmos? What is the final, the complete settlement of the epochal conflict in the mind of man? On what basis can we bring together man's thought and man's objective world and solve the difficulties of skepticisms, ancient and modern? Upon the basis that matter itself is continually and purposely willed

into being by a Supreme Power which creates both the relations and the persons who grasp the relations.

What position can end the deadly pessimism which holds man back from positive achievement, keeps him helpless in the face of social wrong and evil? The position that this is God's world, but that God, wishing to make man a party to moral achievement, awaits only man's coöperative efforts.

To many no doubt such positions will seem but the futile ravings of one whose optimism has made him mad. To some they may bring the cleansing breath of faith and aspiration. They are expressed with a distressing feebleness unworthy of the idea set forth, but they spring from a profound conviction that God, the Supreme Person, is behind the dim unknown, the very secret of the world-order.

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